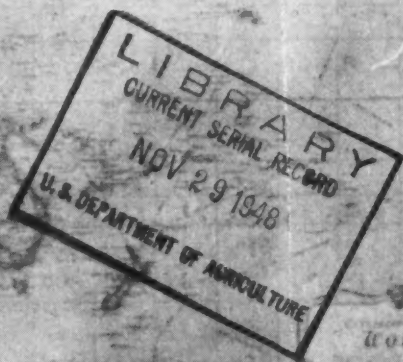


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DISTRIBUTION AGE

NOVEMBER, 1948



Amazing New Transrider Fork Truck Gives Large Truck Performance At Astounding Low Price!

Only Transrider gives you all these Material Handling Money-Saving Features

- ★ Rider operated
- ★ Drive on the load wheels
- ★ High pressure hydraulics
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- ★ Dead-man control
- ★ Full contactor control
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- ★ Lifts, tilts, and drives simultaneously

Now, for the first time, Automatic makes available to industrial truck users the battery operated TRANSRIDER Unit, at a low initial investment, without sacrificing results.

Despite its reduced cost, the Transrider incorporates the most desirable features of the larger famous Skylift trucks, and at the same time, gives you the economical operation, inexpensive maintenance and established dependability of the Transporter series. Batteries are interchangeable with the Transporter series, and no new charging equipment is necessary.

With a telescopic lift mechanism, the Transrider raises load to 130 inches, with an overall height of only 83 inches for clearance through standard boxcar and factory doors. Single lift, before telescopic up-rights are extended, is 66 inches.

The shortest of any truck of like capacity, Transrider is maneuverable in cramped working quarters. Carrying a 36-inch load, it can right-angle stack in nine-foot aisles. This means added storage space within present building capacities. Truck capacities range from 2000 pounds for 48-inch long load to 3000 pounds for a 28-inch load. Send coupon for complete facts.



AUTOMATIC TRANSPORTATION COMPANY

DIVISION OF THE YALE & TOWNE MFG. CO.

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Please send me complete facts on the New Low-Priced TRANSRIDER FORK TRUCK.

Company Name.....

By..... Position.....

Street Address.....

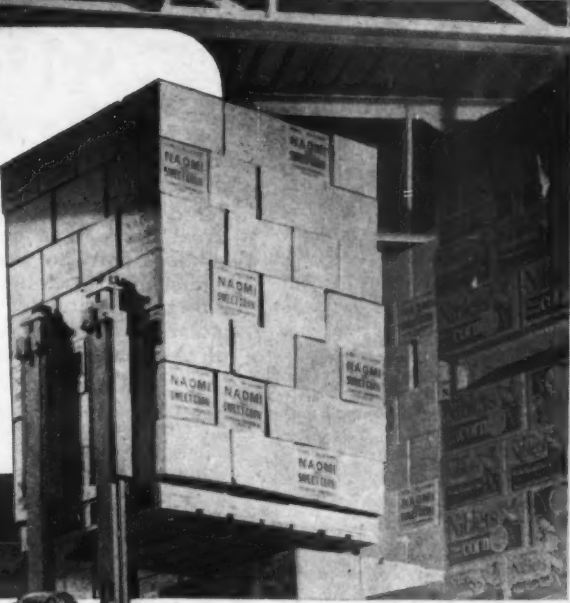
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Dillon Food Markets Triple Storage
Space by Tiering to the Roof—with

BAKER FORK TRUCKS



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★ **JANUARY 10 - 14 • 1949** ★

THIS MONTH'S COVER symbolizes through the use of the globe and map the worldwide aspects of industrial traffic management which serves, in both national and international distribution, as a coordinator of the various activities involved in the flow of goods from the source of the raw material until finished products are in the hands of the ultimate user.

Photo by Ewing Galloway.

DISTRIBUTION AGE

The Magazine That Integrates All Phases Of Distribution

100 E. 42nd St., New York 17

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Publisher

D. J. WITHERSPOON
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November, 1948

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STATEMENT OF POLICY . . . Our policy is based on the premise that distribution embraces all activities incident to the movement of goods in commerce. If distribution is to be made more efficient and economical, we believe business management must consider more than sales, because more than sales are involved. Marketing, while vital, is one phase only of distribution; seven other practical activities not only are necessary but condition marketing costs. Most commodities require handling, packing, transportation, warehousing, financing, insurance, and service and maintenance of one kind or another before, during or after marketing. We regard all of those activities as essential parts of distribution. Hence, the policy of DISTRIBUTION AGE is to give its readers sound ideas and factual information on methods and practices that will help them to improve and simplify their operations and to standardize and reduce their costs in all phases of distribution.



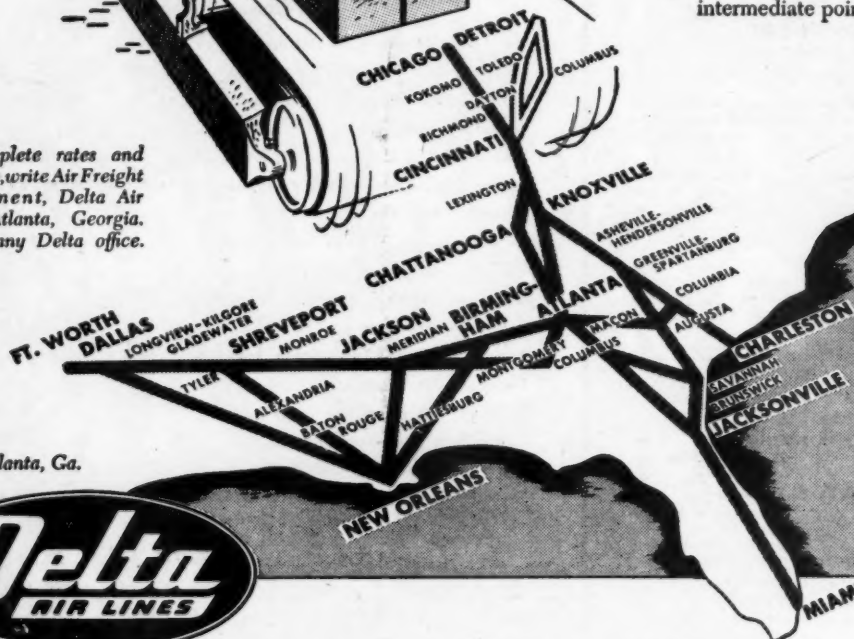
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Cincinnati-New Orleans	8.00
Detroit-Atlanta	6.55
Detroit-Birmingham	7.55
Fort Worth-Atlanta	8.00
New Orleans-Atlanta	5.05

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EVERYWHERE

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 CRATES BROKEN CONTENTS DAMAGED
 XX TWO CRATES MISSING XX ADVISE
 DATE REPLACEMENT SHIPMENT
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Your carrier may be able to offer you this modern means of handling export shipments. Consult with him, or, use the coupon for further information and literature.

REDUCE

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- WATCHING TIME
- INSURANCE CHARGES

PROTECTION FROM

- PILFERAGE
- DAMAGE
- WEATHER



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3 We would like to know more about DRAVO Transportainers. Please send literature.

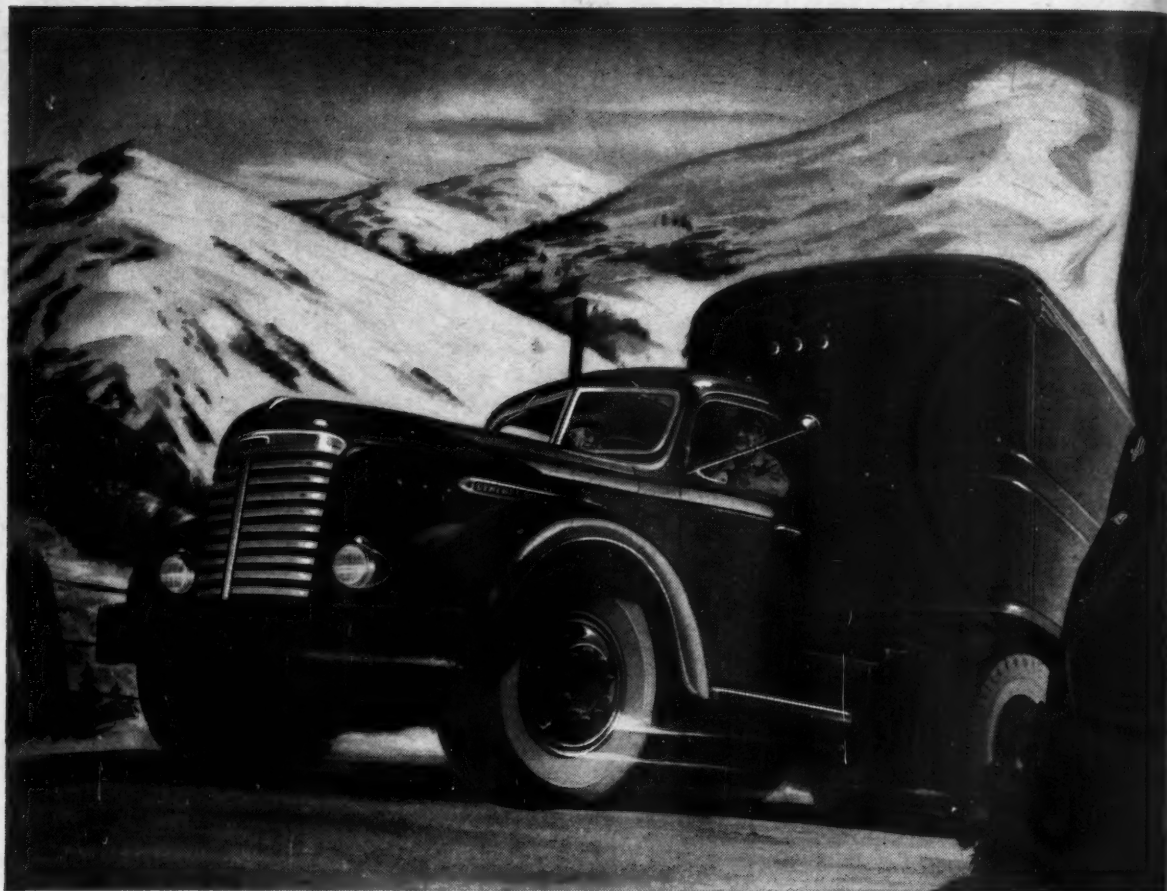
Name

Title

Company

Address

City and State



THE *Harder* THEY HAUL THE *Better* THEY LIKE IT

GMC heavy duty trucks are all-truck designed and all-truck engineered in every part and feature. This rear axle, spring and brake assembly, used on a 750 series Diesel, is typical of the all-over rugged construction that enables GMCs to haul big pay-loads for long periods at low cost.

THE TRUCK OF VALUE

GMC
TRUCKS

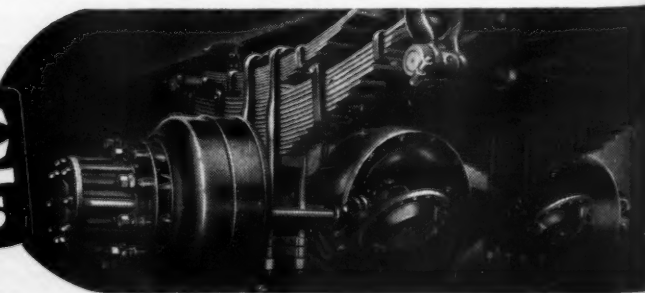
GASOLINE • DIESEL

Pulling heavy loads over the passes of the Continental Divide, where elevations often exceed 11,000 feet, is all in a day's work for heavy duty GMCs like the giant Diesel pictured above.

GMC heavy duties have big, dependable valve-in-head gasoline engines in four sizes . . . powerful pulling GM Diesels in 4-cylinder and 6-cylinder types. They have thick-beamed, heavy-gear axles. And they have frames, clutches, transmissions and brakes that combine with these engines and axles to provide trucks for every type of transport job . . . over-the-road or off-the-highway . . . in weight ratings up to 90,000 pounds.

From every heavy hauling angle . . . economy, dependability and long life...your best truck buy is a big, heavy duty GMC.

GMC TRUCK & COACH DIVISION • GENERAL MOTORS CORPORATION



DISTRIBUTION AGE

NOV

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**UNITED
AIR
FREIGHT**



NO NEED to carry big and risky inventories any more. No need to pay for storage at widespread distribution points, either. United Air Freight can place the goods or supplies *where* you want them, *when* you want them. It's like having a warehouse in the sky!

This new service is revolutionizing distribution. Products no longer lie idle in storage or slow transit. Retailers can get in new goods overnight. Manufacturers can wait until orders are

actually received before starting large-scale production.

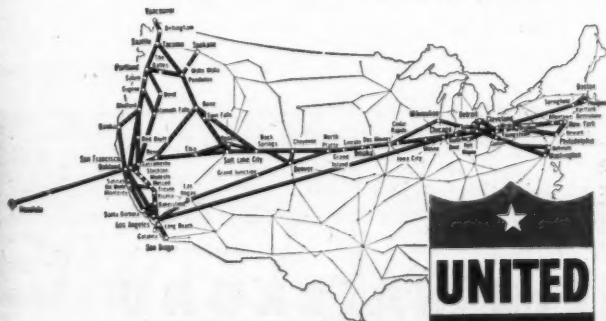
In serving as your "warehouse in the sky," United has many advantages. It's the *only* airline that links major cities of the East, Midwest, all the Pacific Coast and Hawaii. It has unequalled interline connections to over 300 foreign cities. Every United flight carries cargo. And in addition, big 4-engine Cargoliners fly regular, all-cargo schedules. The cost is less than you think.

May we tell you more about United Air Freight? A sales engineer will call. He'll recommend profit-making uses that fit into your sales and distribution system. Phone United. Or write United Air Lines, Cargo Sales Division, 5959 S. Cicero Avenue, Chicago 38, Illinois.

Whatever you're selling _____

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FASTER • FIRST • FARTHER AWAY • FRESHER**

It helps financially, too, for big interest charges are often saved through immediate sales.



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The Governor of Montana *invites You*

SAM C. FORD
GOVERNOR

State of Montana
Office of The Governor
Helena

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Outstanding advantages are low-cost Hydro-electric Power, Natural Gas and Coal, intelligent labor, superb natural surroundings, an invigorating climate and a relaxed, Western way of life.

On behalf of my fellow Montanans, you are invited to make this pleasant land—the Treasure State—your home and your future.

Cordially yours,

Sam C. Ford
Governor



Sam C. Ford

* One of a series of advertisements based on industrial opportunities in the states served by Union Pacific Railroad.

Unite with Union Pacific in selecting sites and seeking new markets in California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oregon, Utah, Washington, Wyoming.

*Address Industrial Department, Union Pacific Railroad
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Road of the Daily Streamliners

ELWELL-PARKER LOW LIFT TRUCKS

***An Easy, Economical
step toward complete
mechanization***

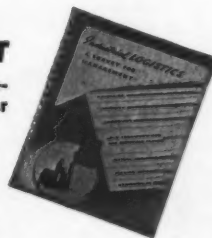
For deliveries from spot to spot, E-P Low Lift Trucks are a profitable advance from hand trucks. These RIDDEN trucks *offer triple savings because they go 3 times faster.* Of course, they also carry larger loads and have a power lift. Skids from your hand trucking system can still be readily used. Where they will serve adequately, low lift trucks represent the smallest investment beyond manual handling.

Elwell-Parker builds a complete line of RIDDEN low lift trucks. Capacities, 2 to 10 tons; reasonably prompt deliveries. If necessary, platforms of special length and width can be furnished.

Have your  man show you the numerous advantages of these low lift trucks. The Elwell-Parker Electric Company, 4110 St. Clair Avenue, Cleveland 14, Ohio.

FREE BOOKLET

describes scientific materials handling—ask for "Industrial Logistics"



ELWELL-PARKER

POWER INDUSTRIAL TRUCKS

Established 1893

DO YOU KNOW? *By Using BEMIS* **TITE-FIT TUBING**

YOU

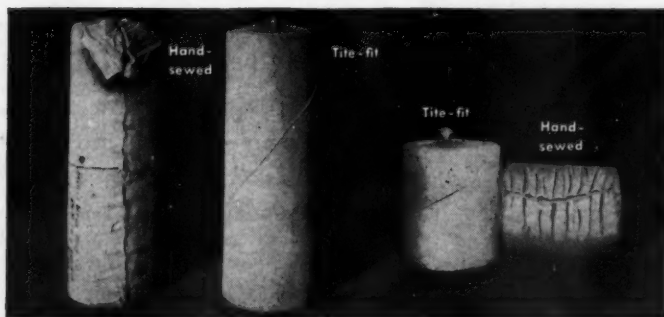
REDUCE labor and material costs, because you:
ELIMINATE handling heavy bales of burlap.
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YOUR CUSTOMERS

RECEIVE neat packages that are easy to handle, because there's a handy ear on each end.

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ELIMINATE chance of cutting into contents and damaging goods, as no cutting of sewing thread or goods is necessary.



This versatile tubing fits almost any shape and a wide range of package sizes. One roll may cover many different diameters and lengths neatly, without waste because TITE-FIT TUBING has stretch in both directions.



BEMIS BRO. BAG CO.

Brooklyn 32, New York



Canadian Bag Co., Montreal, and the Ontario Bag Co., Port Colborne, Ontario, are licensed manufacturers of TITE-FIT TUBING in Canada.

5 QUICK STEPS

That's all when you package with Tite-Fit Tubing



1. Pull tube well down over object leaving an overage to cover bottom



2. Turn package on side and fasten tube at bottom with a wire tie



3. Turn package upright and use both hands to tuck up slack



4. Fasten top with a wire tie close to object to assure tight fit



5. Cut off the Tite-Fit Tubing about 1 inches above the wire tie

MAIL COUPON NOW

Bemis Bro. Bag Co.
5120 Second Ave., Brooklyn, N. Y.

☐ Send descriptive folder on TITE-FIT TUBING
☐ Send sample. Our packages are approximately _____ inches in circumference. (Please specify)

Name _____

Firm _____

Street _____

City _____ Zone _____ State _____

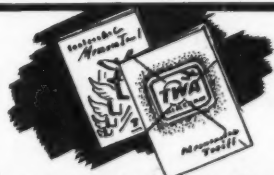
ALONG THE WAY...OF TWA



FLYING SQUIRRELS SET "FLYING" RECORD
 WHEN AN OVERSEAS FANCIER ORDERED A PAIR OF FLYING SQUIRRELS FROM A TENNESSEE BREEDER... HE ASKED **TWA** (TRANS WORLD AIRLINE) TO DO TRANSPORTATION HONORS. SQUIRRELS "FLEW" IN SPECIALLY DESIGNED CAGE...ARRIVED QUICKLY, SAFELY, IN GOOD HEALTH. TWA AIR CARGO INCLUDES ALMOST ANYTHING ANYBODY WANTS TO SHIP ANYWHERE...AND RATES ARE LOWEST IN **TWA** HISTORY.



SANTA RIDES HIGH.... BE SMART. THIS YEAR SEND YOUR CHRISTMAS GIFTS OVERSEAS BY **TWA** INTERNATIONAL AIR CARGO OR PARCEL POST. **SAFE... FAST...AND COST IS LOW.**



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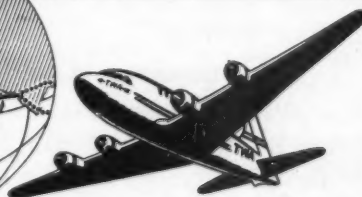
GOT A PUZZLER?

SHIPPING PROBLEM BOTHERING YOU? PHONE **TWA** AIR CARGO MANAGER ANY TIME. HE'LL HELP YOU SOLVE IT....GLADLY.



WONDER IF SHIPMENT ARRIVED?

TWA confirms arrival of Air Cargo at international destination airports. For report on your shipment, simply phone local TWA office. Eliminates guessing. ONLY TWA offers this service.



TWA

TRANS WORLD AIRLINE

U.S.A. • EUROPE • AFRICA • ASIA

WHY SHIPPERS SAY... "VIA TWA"

TWA saves shipping time. Convenient: one phone call... one airbill... one carrier. Direct routes. Daily flights. International all-cargo, 4-motor planes. Flight agent on board. Reserved space. Collect shipments. Call TWA (see phone book) or international freight forwarder.

THREE KEY MEN WHO KNOW THE "INS" AND "OUTS!"



TODAY, motor transport should be an important consideration in planning a new building or in the improvement of your present facilities. This modern means of hauling can best serve you if your building has adequate shipping and receiving docks.

Team-Play Counts

Here's where the experience of this three-man team — your Traffic Manager, your Architect and a Representative of Motor Transport — can lend money-saving assistance. Their advice in planning any modernization of your building or new building design will certainly pay dividends in the labor-saving movement of goods both "in" and "out" of your building.

Improve Handling

Perhaps your handling could be stepped up by the modernization of your dock facilities even by altering their location so that both incoming and outgoing goods need cause no congestion. With adequate

facilities costly waiting time can thus be dispensed with, so trucks and Trailers can deliver their full share of efficiency.

Why not analyze your materials-handling facilities and by all means put these three key men on your Planning Committee from the start.

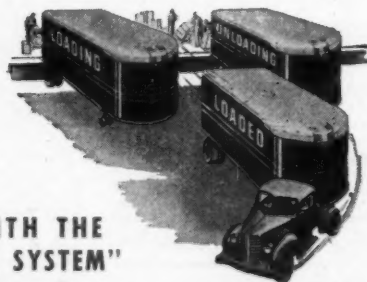
World's Largest Builders of Truck-Trailers

FRUEHAUF TRAILER COMPANY

DETROIT 32 • LOS ANGELES 11

In Canada: Weston, Ont.

79 Factory Service Branches



SAVE WITH THE 'SHUTTLE SYSTEM'

Only with Trailers can you save like this. One Trailer is left at the loading point, another at the unloading point, while the truck is enroute with a third. Thus, your truck need never be idle—service is improved and handling costs are lowered still further.

FRUEHAUF



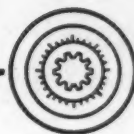
TRAILERS

"ENGINEERED

TRANSPORTATION"

Hear Harrison Wood, Interpreter of World Events, Every Sunday, 3:00 P. M., E.S.T., over ABC. Consult Your Local Paper!

EDITOR'S PAGE



The Traffic Manager-- A Coordinator

"DOWN Kentucky way," as the Southern gentleman explained laconically while he sipped a mint julep, "everybody who has two chimneys to his house has a right to be called Colonel." Many individuals in industry, judging from what some of the traffic managers themselves tell us, base their right to the title of industrial traffic manager on equally tenuous grounds. For example, we may find in large concerns traffic managers who function as transportation and distribution coordinators on a truly top management level; or we may find in less progressive or smaller companies individuals claiming the proud title of traffic manager who function on little more than a shipping clerk level and who are no more concerned with the overall distribution problems of their company than Aunt Tilly's cat is concerned with the overall problems involved in its owner's current efforts to acquire the "new look."

Industrial traffic management as we know it today in all of its ramifying importance to distribution is relatively a new vocation. Lacking established professional standards, it would seem that almost anybody who is concerned, in no matter how minor a capacity, with transportation rates and routings is free to appropriate the title. As a result, the authority and responsibilities attached to the title have varied widely between companies, and too often men boasting the title have lacked the broad economic background and the personality traits essential to traffic management's rightful role—that of distribution coordinator. Perhaps the increasing recognition being accorded by industry to the work of the young American Society of Traffic and Transportation which has formulated, under able and responsible leadership, professional standards, and which is prepared to furnish students of traffic management and transportation with certificates of fitness, will eventually result in specific responsibilities, based on specific qualifications, being attached to specific titles.

Industrial traffic management, as it is exemplified in our more progressive companies, is truly a top management function since it performs at every stage of physical distribution to control overall costs. Transportation is the industrial traffic manager's primary consideration, of course, but since transportation involves handling, he of necessity must see to it that the materials handling equipment and techniques employed are properly coordinated with the mode of transportation employed. Similarly,

since packing and packaging and warehousing affect handling methods, transportation and marketing costs, these, too, become his concern. Finance and insurance in many ways affect, and are affected by, traffic management. Service and maintenance of industrial and consumer products and of transportation equipment, directly and indirectly, are a concern of traffic management.

The coordination and integration of the physical phases of distribution in the interest of lower overall distribution costs involve in most companies some very fundamental problems. Changes in warehousing, in materials handling techniques, in transportation routings, etc., when part of a companywide program, have an immediate effect on customer service, on manufacturing costs, on inventory position and on numerous company activities and therefore on sales and volume. Obviously these problems because of their overall character cannot be solved on a purely departmental level, but only by a distribution coordinator functioning on a top management level. Industrial traffic management, because of its inherently strategic position is preeminently suited to this roll of distribution coordinator.

The really tremendous reductions in overall distribution costs which can result when the attention of management is focused on the so-called physical phases of distribution, is strikingly evidenced in the report on a recent distribution cost study, undertaken by Charles H. Sevin, Marketing Division, Office of Domestic Commerce. In a chapter devoted to "Physical Distribution," Mr. Sevin presents a number of case histories which demonstrate the many practical opportunities which exist for reducing costs by eliminating inefficiencies in these physical distributive functions. This study should receive the serious attention of the industrial traffic manager in his role of distribution coordinator. It should receive the serious consideration of the top level executive who all too often doesn't know what his distribution costs actually are and, not knowing, sometimes regards the possibility of cost reduction in the realm of physical distribution as representing so small a segment of overall distribution costs as to scarcely merit his personal attention. It should be read by everyone concerned with distribution. In many of the realizable economies discussed by Mr. Sevin, industrial traffic management has an increasingly important part to play.

D.J. Witherspoon
Editor.

DA

NEXT MONTH

LETTERS to the Editor

The DECEMBER issue of DISTRIBUTION AGE will feature:

MEN AND METHODS . . . Leading authorities in industry and DA staff experts will discuss men and methods—the human equation and the mechanical—in relation to basic distribution practices . . . If the overall cost of distribution is to be controlled there must be more recognition from top level executives of the need for greater integration and coordination of various distributive activities, including transportation, handling, packing and packaging, finance and insurance, warehousing, marketing and service and maintenance.

SHIPPER'S LOAD AND COUNT . . .

Questions arising from use of the term "shipper's load and count" are difficult to clarify, particularly where shipments are identical in size and the possibility of error in records and tallies exists. G. Lloyd Wilson, prominent writer and authority on transportation and traffic matters, discusses this ramifying problem in the December DA in relation to carrier liability.

GOOD PACKAGING PAYS OFF . . .

The question, "When is a product properly packed for shipment," is frequently asked. A. L. Russell points out that there is no rule of thumb for determining this question. There are innumerable factors to be considered in each individual case, one of the most important being the mode of transportation used.

RAIL PICK-UP AND DELIVERY . . .

Henry G. Elwell, prominent traffic consultant, discusses in response to repeated requests from shippers, the ferry car and store-door delivery services of the railroads . . . Carriers, as Mr. Elwell points out, are not obligated under the law to provide such services but once established, they come under the jurisdiction of the Interstate Commerce Commission.

REA AND AIRCARGO . . .

A recent CAB decision states that the air express pick-up and delivery services currently being rendered by the Railway Express Agency are in the public interest and should be continued . . . Dr. John H. Frederick, well known aircargo consultant, discusses the overall effect of this decision in relation to some of the certificated airlines' plans for organizing their own ground services.

Sir:

I was pleased to receive your August issue of DISTRIBUTION AGE containing our story, "Aircargo and the Feeders."

Indeed, I was more than pleased with the fine presentation you gave the article. We already have received gratifying comment in the form of letters from other airline traffic people and it would seem your publication is widely read throughout the industry.

—Robert S. Terrell, manager, Advertising, Southwest Airways Co., San Francisco Airport, Calif.

Class, Commodity and Exception

Sir:

I just read your article in the May 1948 issue of DISTRIBUTION AGE entitled "Class, Commodity and Exception" and must say I liked it very much. In fact, this sort of material is just what I have been looking for, and I certainly would like to read more.

I am on the lookout for everything of instruction and interest I can find on the above subject.

I am attending a traffic school in Philadelphia, and I am chief rate clerk for a motor carrier. I believe my employer receives DISTRIBUTION AGE monthly, so I'll be looking for more of the same.

Archie McLees.

Editor's Note: Mr. Elwell, Traffic Consultant for DISTRIBUTION AGE and author of the article referred to by Mr. McLees, replied in part as follows:

Dear Mr. McLees:

Your comments in reference to my article on "Class, Commodity and Exceptions," are greatly appreciated and I am pleased to note that the article has been of interest and value to you.

As to your question on the availability of books and other material on the subject of traffic, since you appear to be a resident of Philadelphia the public library in that city undoubtedly has books on traffic and transportation. There is one publication on the subject which I highly recommend. If it is not out of print you can purchase it from the Superintendent of Documents, Washington, D. C. I refer to "Industrial Traffic Management," Domestic Commerce Series No. 39.

Sir:

I have read with interest your article in the July issue of DISTRIBUTION AGE under the heading "Household Goods—Rail vs. Truck"; in part you state and I quote: "when shipping by railroad the household goods shipper must pack all goods in crates, etc., in accordance with tariff requirement."

I would like to call your attention to Consolidated Freight Classification No. 18 Item 24235 which reads in part:

"must be fully protected by boxing, crating or wrapping." Therefore, it is not necessary to crate all goods.

In 1932 we originated the idea of shipping household goods by rail eliminating crating wherever possible, and at that time we shipped considerable l.c.l. short haul. As van service improved we eliminated that type of business; today, we recommend vans for short hauls.

In recent years we have been using the method of making up pool cars to the West Coast and it has proven very satisfactory from the standpoint of both safety and economy and we feel this is the practical way to ship long haul. Recently, because of the increase in freight rates, our volume has dropped off, due to the fact that we are forced to quote rates which are competitive with van rates.

We would be pleased to have a representative of DISTRIBUTION AGE call at our warehouse and inspect our packing and loading.

—C. A. Miller, General Forwarding Co. Inc.

Editor's Note: Mr. Elwell replied as follows:

Dear Mr. Miller:

I sincerely thank you for your helpful comments concerning my article "Household Goods—Rail vs. Truck" and it is pleasing to find that the article was of interest to you.

As to your statement concerning the packing of household goods shipped by rail, you of course understand that by including in the article the words "goods in crates, etc." I was implying that the household goods might be packed otherwise than in crates. And, in mentioning "tariff requirement" I was also referring to the Classification.

Sir:

The attempt of your magazine to obtain a breakdown of distribution costs by a number of industries, was one of the best I have yet seen. We have the material that was published in DISTRIBUTION AGE at hand, but wonder if you have issued a more detailed report on the questionnaire and the returns.

—D. E. Church, Transportation Economist, Division of Marketing and Transportation Research, U. S. Dept. of Agriculture.

Editor's Note: Our reply to Mr. Church was as follows:

We made this survey in the expectation that the results would be very much what they turned out to be. Our purpose was to point out the amazing lack of agreement as to the allocation of distribution costs, and to stress the need for some sort of established standard.

Milwaukee Dept. of Public Works

Solves Materials Handling

with



INTERNATIONAL Industrial Wheel Tractors



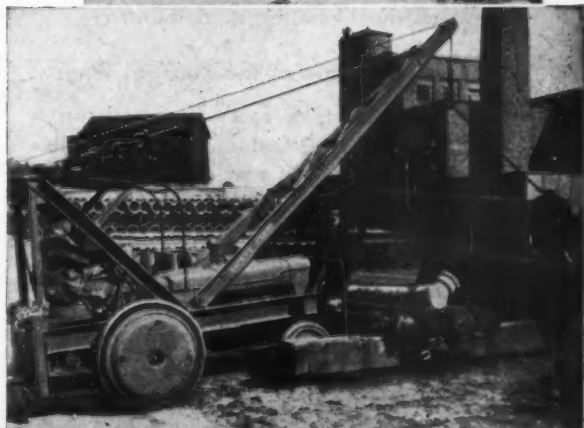
Two International I-4 Tractors do the heavy lifting and materials handling around the Municipal Service Building in Milwaukee. One is shown in these views unloading and stockpiling a 16-in. gate valve weighing 1300 lbs. and a 12-ft. length of 24-in. pipe weighing 2400 lbs.

The crane-equipped tractors stockpiled everything in this water department yard. The department liked them because "they are faster and easier to handle than the cranes used before."

Consult your International Industrial Power Distributor about these and other International tractors. Let him help you select the models required for your jobs.

Industrial Power Division

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Ave., Chicago 1, Illinois



INTERNATIONAL POWER

CRAWLER AND WHEEL TRACTORS • DIESEL ENGINES • POWER UNITS

NOVEMBER, 1948



These loading instructions are painted on the linings of boxcars that do a better job of hauling your freight. Shippers who've used cars equipped with NAILABLE STEEL FLOORING* have found that they better protect goods in transit, they cut down car supply problems, and they permit full use of mechanical handling equipment.

Here Are Some of the Reasons Why:

Power lift trucks *can't* break through NAILABLE STEEL FLOORING. You can use your five-ton fork lifts with no worry about weak floors.

NAILABLE STEEL FLOORING is durable; it stays in good condition for all types of freight. This means *more useful* cars; cars that you don't have to kick out empty

because of bad flooring or spot for loading according to floor condition.

Freight blocked on NAILABLE STEEL FLOORING *stays blocked*. Its nail-holding power is such that the blocking gives way before the nails pull out of the nailing grooves. Yet nails are easily driven—and readily removed with an ordinary claw bar.

*PATENTS PENDING COPYRIGHT 1948 BY GREAT LAKES STEEL CORPORATION

WRITE US if you'd like to see a car equipped with NAILABLE STEEL FLOORING. We follow the movements of many of the cars now in use and will be glad to let you know when there's one in your area.

GREAT LAKES STEEL CORPORATION

Steel Floor Division • 3576 Penobscot Building • Detroit 26, Mich.
UNIT OF NATIONAL STEEL CORPORATION



DISTRIBUTION AGE

The Traffic Manager In Distribution

The industrial traffic manager plays an important role in distribution . . . His department must integrate and coordinate many distributive activities, from the purchase of raw material, through intraplant storage and handling, to packing, shipping and final delivery to the customer.

By J. F. KIRKMAN

Pacific Coast Traffic Manager, The Coca-Cola Co.



THE duties of the industrial traffic manager are many and varied, all of them working toward the solution of his company's transportation problem. The traffic manager is vitally concerned with the movement of traffic from the purchase of raw materials, through storage and intraplant handling, packing and shipping, to delivery to the customer.

He has an important function as a coordinator of many activities. In the handling of raw materials and supplies, the traffic manager must advise the purchasing agent as to the cost and service from competing producing points. After the purchase is affected, his duties require him to specify the type of service to be used and the route to insure required service at the lowest cost. Scheduling shipments of raw materials and supplies so that they will arrive at the production lines as needed is an important function of the traffic manager, working with the production department. Proper, effective scheduling eliminates or minimizes demurrage and storage costs and, in some cases, saves large sums on factory labor. A record of all "in transit" cars must be

kept so that proper placement orders can be given to the carrier in such manner that charges for demurrage or reconsignment do not accrue.

Where outside warehouse storage space is required, the traffic manager must arrange suitable storage at lowest cost by taking advantage of existing storage-in-transit privileges or requesting the carriers to provide such privileges if none are in effect. Along with storage rates, consideration must be given to insurance and tax

costs, not only on finished products but on raw materials as well.

The manner in which goods are sold often decides the package in which they are marketed. In many instances, eye appeal or attractiveness outweigh the economy features of eliminating excessive weight and breakage. In other cases, marketing practices are such that sales, production and traffic departments can agree on a package that is perfectly fitted to the needs of all departments. Such

(Continued on Page 50)

About the Author

Mr. Kirkman spent 11 years, from 1925 to 1936, in the freight traffic department, Southern Railway, at Greensboro, Raleigh, and Winston-Salem, N. C. From 1936 to May, 1940, he was associated with The Transportation, Inc., Atlanta, as vice president and general traffic manager. Mr. Kirkman then became a member of the Standing Rate Committee, Southern Motor Carriers Rate Conference, Atlanta, and served on the committee from May, 1940, to May, 1943. He joined the Coca-Cola Company at Atlanta as assistant to the traffic manager. In January, 1944, he was appointed Coca-Cola's Pacific Coast traffic manager with headquarters in Los Angeles.





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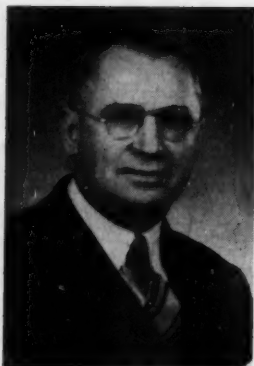
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American Society of



H. A. HOLLOPETER, President

American Society of Traffic and Transportation

THE American Society of Traffic and Transportation is a technical and professional association of persons engaged in all phases of traffic and transportation. Its membership is open to those engaged in this work for carrier, industrial and commercial enterprises, educational institutions and government agencies. Plainly, and in a few words, its purpose is to inspire an ambition in all traffic and transportation people to learn and know more about their work. It plans to recognize the attainment of high standards of achievement in the field and to encourage and assist in the development of greater technical and professional proficiency in transportation and traffic management.

The Honorable Clyde B. Aitchison, dean of the members of the Interstate Commerce Commission and many times its chairman, said of this movement, "it is hard for me to imagine what could be said in derogation or discouragement of such an effort." And also, "properly directed examinations will give point to the studies of the individual students, and will give them an opportunity not now available of furnishing evidence of having acquired a knowledge of both the fundamental principles of transportation and their practical application."

Our Board of Education, composed of outstanding educators in this field, has prepared a bibliography or outline of study material available for those who desire to improve their knowledge of any phase of this subject. We would consider everyone engaged in this field a student. We would make of him a more energetic and earnest student of the principles and processes of transportation than he or she may have been previously.

Traffic and transportation is a most interesting and important work. None is more important and essential to the welfare of humanity. Thus it offers great opportunity to exercise that natural feeling of pride that comes from honorable and valuable service to our fellow man. It is a new and rapidly developing field of work. This means an unlimited opportunity to employ a native ingenuity that singles one out for especial advancement, honor and satisfaction. These, after all are the things and experiences that really make life worth while.

These are the things, the advantages, the benefits and satisfactions that the Society strives to make more easily available for all engaged in this field, and to aid in acquiring them. In addition to providing an outline of study or compilation of books and publications where the transportation worker may improve and expand his knowledge, we seek to induce more schools and colleges to enlarge their training in the various subjects of transportation. We would foster and support every kind of worthy medium where more education, knowledge and training is made available.

In addition to all this, the Society through its Board of Education has provided a system of reasonable and adequate examinations where the aspiring and ambitious student may have his knowledge and abilities tested. To those who pass these examinations we will confer full membership in the Society certifying to the world that they possess proper qualifications to make them valuable members of this profession. Certainly this certificate, backed by our membership composed of outstanding executives and prominent officials from all branches of traffic and transportation will be invaluable to the holder in securing proper recognition and advancement in his chosen field of work.

Those interested in becoming members of the Society are invited to write the Registrar, Mr. E. H. Breisacher, P. O. Box 2128, Middle City Station, Philadelphia 3, Penna., for a copy of the Society's Announcement and Bibliography of Study Subjects and Examination, and for an application form.

AFTER nearly a quarter of a century of study and discussion, the American Society of Traffic and Transportation is an actuality. During this period, a number of men engaged in traffic and transportation work, believing that this field of service could be advanced in usefulness in commerce and industry, and believing that the effectiveness of those engaged in it could be enhanced by the recognition of the professional character of the work, strove to blaze a trail toward these objectives.

The task is only begun, but it is hoped that it is well begun. A professional society has been established. It has attracted a group of prominent traffic and transportation men to act as its sponsors, and to finance its program. Its first educational and examination program has been developed. Its success will be assured when, in the course of time, it has had the opportunity of demonstrating that it can help earnest men and women to qualify for responsible professional-level work in transportation and traffic management and to certify their qualifications so as to enable them to enter and advance in traffic and transportation work with carriers, with industries and in government service.

Pre-Natal Period

After more than twenty years of study and pioneer work by a number of leaders in the field,

Traffic and Transportation

The ASTT aims to professionalize the traffic man in government and in private enterprise . . . By so doing, it will enhance his usefulness, elevate standards and rebound to the benefit of industry.

By G. LLOYD WILSON

*Professor of Transportation and Public Utilities
University of Pennsylvania*

sponsored by the Associated Traffic Clubs of America, the American Society of Traffic and Transportation was instituted in 1946. The first actual step toward the systematic development of professional status and recognition in transportation and traffic management was made in 1927 by a small group of traffic men at the Annual Convention of the Associated Traffic Clubs of America. A committee on education was appointed to consider the problems of aiding educational efforts in the field and report to the next A.T.C.A. Later this committee became the committee on education and research. The committee is still functioning in assisting traffic clubs, educational institutions, and individuals in developing programs of education and training in the field of traffic and transportation. In 1933, a committee on professionalization was appointed as an offshoot of the committee on education and research to study specifically the problems of improving the usefulness of traffic and transportation work in carrier, industrial, commercial and government service, by the development of a professional education program, standards, and examinations to enable the attainments to be certified.

This committee made intensive studies of the leading professional societies in the United States and Great Britain. It made several reports to Associated Traffic Clubs of America Conventions and directors meetings. Some of these re-

ports were factual studies of the founding, development, and problems of these professional societies and institutes. A long monograph on the development and problems of the engineering, accounting, and other professional societies in the United States was written. Another monograph was written by the writer as Chairman of this Committee on *Traffic Management: The Newest Profession*.

A study was made, by the writer, of the British Institute of Transport and of the Industrial Transport Assn. in England in 1933. Since that time a study at longer range of the Institute of Transport Administration of Great Britain has been made. Experience has also been gained by working with the American College of Life Underwriters and the Institute of Property and Casualty Underwriters in their examination programs. The professional society in traffic and transportation should not imitate any other professional society, but the lessons to be learned from the successes and mistakes of other societies are invaluable in the work of advancing the professional interests in this field.

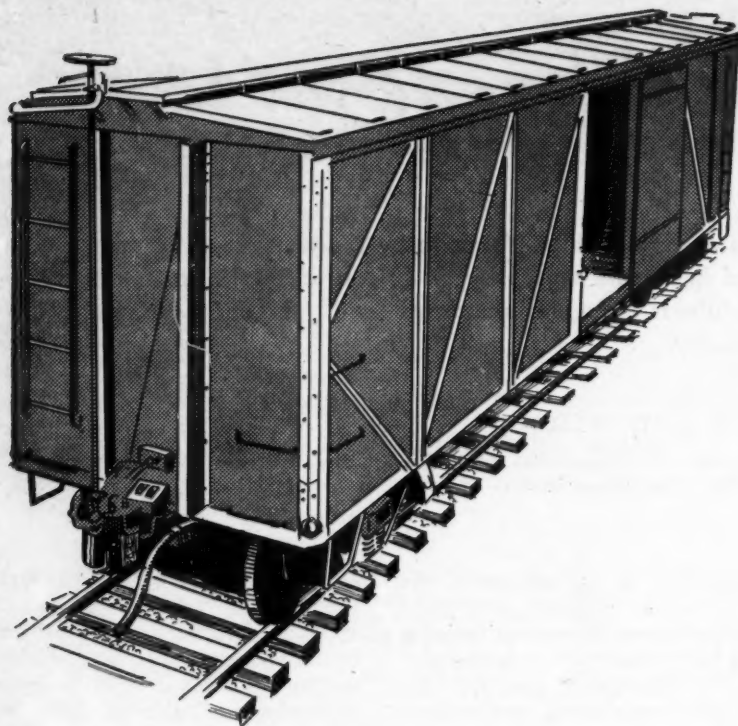
Other studies and reports made by the Committee on Professionalization of the Associated Traffic Clubs of America were designed to show the feasibility of professional status in traffic and transportation and suggesting cooperation between the Associated Traffic Clubs, the National Industrial Traffic

League, the Shippers Advisory Boards, and the Association of Interstate Commerce Commission Practitioners. This cooperation was and is recommended in order to develop a sound relationship between the proposed professional society or institute as an educational standards development and an examination body and these other useful and respected senior transportation organizations. Each organization has its distinctive place in the field of transportation and traffic management. It was the thought of those who pioneered in this work that a professional society should not interfere in any way with these organizations. On the contrary, it should assist the effectiveness of the other organizations by increasing the interest in their work and by providing a larger number of qualified men and women to carry their work forward to greater usefulness.

Sponsorship by ATCA

After this long and often tedious but necessary preliminary work the enthusiastic cooperation of the National Industrial Traffic League, the Association of Interstate Commerce Commission Practitioners, and other leading traffic organizations was assured. The Associated Traffic Clubs of America sponsored the new organization and preliminary arrangements were made to launch it. In March, 1946, a meeting of a group of car-

(Continued on Page 44)



L.C.L.

By RANDALL R. HOWARD
Special Correspondent

A NEW traffic division, set up especially to aid in the improvement of their l.c.l. rail services was recently established by the General Traffic Department of Sears, Roebuck & Co., which company procures merchandise from some thousands of widely scattered manufacturer sources and distributes this merchandise nationally through 11 mail order houses and more than 600 retail stores.

"The chief objective of our new l.c.l. traffic division," said J. C. Allen, general traffic manager, "is to more efficiently channelize our merchandise shipments, and also to work with the railroads to help improve our l.c.l. shipping services.

"During the past few years," continued Mr. Allen, "there have been large percentage increases in our l.c.l. merchandise shipping, as compared with full-car shipping. This has been due in part to the smaller-volume allocations that we have been able to get recently from many of our manufacturers. Also, from the national viewpoint, the general conditions of supply and demand have tended to place

emphasis on inventory control. Hence there has developed the present abnormally large percentage of l.c.l. shipping; and the present rail terminal congestions which have resulted in the comparatively very poor l.c.l. rail services.

"It seems to me that the chief reasons for this poor service can be stated quite simply. There are too many handlings of l.c.l. packages. And the practical remedy is for the railroads and shippers to develop procedures to keep larger percentages of l.c.l. handling away from the most crowded terminals. That is, by-pass all possible terminal handling. There are three main remedies. First, the rails could offer to shippers new incentives, through rate revisions, that would stimulate more consolidations of carlot merchandise shipments, which thus would either fully or largely escape terminal handlings. Second, railroads and shippers should cooperate in the development of rail routing schedules to make possible the greater use of package cars. Third, individual shippers should carefully

study the flow of their shipments to the end of encouraging the railroads to develop direct package cars where the volume would permit."

There is evidence that the new Sears l.c.l. division has been active in putting into operation such parts of these three stated principles as relate to their own rail shipping operations. This especially includes the following procedures:

1. Periodic analyses of all their l.c.l. shipping.
2. Work with sources to channelize such shipments.
3. Maintain close contacts with rail carriers on l.c.l. services.

H. A. Nater, as supervisor of the new division, has three assistants, and the division utilizes a wide variety of the records and facilities of the general traffic department. A statement of the setup of the l.c.l. division includes the following eight objectives:

1. Attempt to get as many shipments as possible into the most direct and fastest package car movements.
2. Encourage the railroads to establish merchandise cars and generally improve their service.
3. Develop an efficient handling of shipments weighing under 100 lb. through the consolidation principle.
4. Encourage and instruct sources to load overhead trap cars so as to bypass congested transfers.
5. Assist anyone having problems which involve l.c.l.

Improvement Program

Sears new L. c. l. division works in cooperation with the railroads to accomplish these objectives:

- **Promote package car shipments.**
- **Encourage use of merchandise cars.**
- **Conduct surveys on carrier service.**

parcel shipments.

6. Expedite rush shipments.

7. Conduct surveys to determine service currently being obtained from carriers.

8. Keep company merchandise departments and other interested parties informed of new l.c.l. services, etc.

One of the terms now much used in the new Sears division is "channelization of shipping." This implies the development of handling and routing procedures to permit advantageous consolidation of shipments. The general shipping directions sent to manufacturer sources advises: "If you have purchase orders for less than carload or truckload shipments for one store or stores in the same vicinity, which you believe can be advantageously consolidated into a carload or a truckload shipment, please call this to the attention of our general traffic department."

The larger shippers also are furnished with manuals covering the loading of l.c.l. shipments into pool cars and consolidated cars. In addition to the rate advantage from combining such shipments into consolidated carloads and into stop-off cars, there is also a service advantage because shipments so handled do not require transfers enroute nor are they handled through freight houses.

Also to aid in their shipping, such "sources" are supplied with frequently revised "Less Than Carload Shipping Directions" that are assembled in 8x11 in. loose-leaf manual form. A recent edition shows about 300 shipping

points in the United States most important to company traffic. When such a manual is sent to an individual manufacturer, it is marked to designate the specific motor carrier or rail routings for his shipments, based on the constant research revisions being made by the general traffic department. At the bottom of each applicable routing sheet there is an "effective date" marking, and it is planned that the manual shall be kept thoroughly up-to-date by insertion of additional yellow pages to show all latest revisions in shipping directions. A new general manual under preparation will be changed to the extent of classifying shipping-point directions alphabetically by states rather than by cities.

One of the new "channelizing" improvements being carried on by the l.c.l. division pertains to the development of a more balanced two-way use of a particular rail line or motor truck line between two main routing centers. That is, the recent intensive studies being made by the division of all company merchandise routings and shipments has shown that in a few instances there have grown up one-way routing practices. For example, one Sears shipper—or possibly the traffic manager for a Sears mail order house or store—would have occasion to use a certain railroad system or a certain motor carrier for shipments in only one direction. In contrast, other like Sears shipments being sent in the opposite direction between these same two points might be routed via still another rail or motor carrier. Thus, each of these two car-

riers would be transporting Sears freight in only one direction. Hence neither they nor Sears would gain the assumed advantages that should come from "balanced traffic."

The program being developed by the new division assumes that Sears will keep in close service contact with all rail carriers that will be used in such shipping. First, pertaining to each of these rail carriers there will be assembled detailed monthly tabulations of all Sears shipments. These will be based on shipping reports, and will afford for each rail system a complete picture of all its l.c.l. Sears services. And if the tabulations for an individual rail system should show continuously poor service, extending through a long enough period of time to prove that the operating faults were not chance but evidently repetitious, the observed conditions will be personally followed through with the one railroad executive in most direct authority over this service.

Sears experience has shown that the effective results to be expected from such a followup will largely depend on whether this particular railroad system has an active single department or a single executive who can speak with some authority for the l.c.l. service of his road. However, it has been the Sears experience that all railroads, if approached courteously and with constructive suggestions, are glad to work with a shipper for the improvement of their services. Results from such reports to railroads have included personal office

(Continued on Page 48)

Packaging Teamwork



NOT long ago a top management executive was discussing package design and his entire conversation touched upon the advertising department, the art work, the "eye appeal" they were building into their containers, and the sales promotion program that would flash the striking wrappings to the world. Not a word was said about the traffic man or the materials handling manager. They are as much concerned with package design as the sales manager or advertising director, and unless consulted, this company may lose more money through the faulty movement of finished products than it will profit on increased sales.

The traffic man and materials handling manager should be called in to check package design as to the fitness of the container from the standpoint of distribution. If the package is a "weak sister" from a transportation or handling standpoint, it will not only be a costly unit to distribute, but it

will have "black-eye appeal" when it reaches the market. This highlights the need for inter-departmental cooperation.

Some concerns are recognizing the value of such cooperation in package design and have established packaging committees comprising the sales director, traffic man, materials handling manager, production man and cost accountant. Where companies have installed packaging engineers in the sales or production department, they too should be on the packaging committee.

These are the main reasons why the men that move production should be consulted on package design. 1. The shipping container should be designed in order to assure maximum utilization of materials handling equipment, in warehouses and carriers used; then the inner container size should be tied in with the dimensions of the outer container; and finally the unit of sale or primary container should be designed to fit the cell.

This reverses the process used in most plants where the sales department approves a package without considering the ultimate handling unit and its suitability to prevailing facilities and conditions. The end result is high handling and transportation cost.

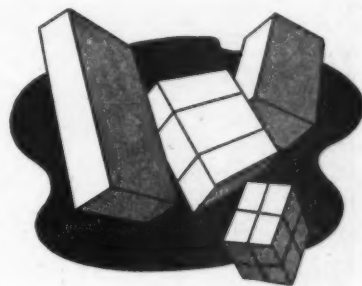
2. The unit of pack should possess the most practical dimensions, shapes and capacities for ease of handling, and at the same time be designed so that it receives favorable consideration from the consumer. Only when the men who move production confer on package design with the men who sell the goods is this objective realized.

3. The master case must be designed so that it can travel safely whether shipped carload or parcel-post. This must be determined when the package is designed, but in most instances, no one gives this important factor a thought until the materials handling manager gets the job of assembling the selling units into the shipping container.

4. Better standardization of containers, lines and sizes is needed in many plants to reduce shipping costs. Great variation in the size of containers means high shipping costs on labor and supplies. One cosmetics manufacturer found that the net weight content of the different jars ran from $\frac{3}{4}$ to $\frac{1}{2}$

Few people appreciate the potentiality of the traffic man as a packaging coordinator. He can collaborate with the engineer, the sales manager and the advertising staff in problems of design. Manufacturers are beginning to recognize as never before not only that the design of a product affects its production, but also how it is packaged, handled, warehoused and transported to point of sale. In all these activities the traffic man has an important role to play.

By FRED MERISH
Special Correspondent



of an ounce, 8 jars for 8 different products, 4 different sizes, 8 different shapes. By making the weight uniform in all jars and using one jar instead of 8 different ones, he cut his handling costs 50 percent without experiencing a reduction in sales.

5. The master case should be of the type that can be handled economically at the receiving end. 6. The unit of sale should lend itself to adequate packaging in the shipping container in a minimum of time. 7. The pallet size used in handling directly controls the size and shape of the shipping container, and so, this should be determined before the primary container can be properly designed. 8. The package should be designed and sized so that it can be protected from pilfering and deterioration in the master case without undue cost. 9. The package should be designed with an eye to insurance rates. 10. Cumbersome packaging means high costs in the shipping department. This extravagance results from poor cooperation between handling and sales when package designs are created. Handling experts, consulted when packages are designed, can keep costs down to minimum in the shipping department. 11. The package should be designed so that the shipping container carries the

goods to market in units readily saleable. Adequate protection of contents should be considered when designing the package. Protective packaging is important in these days of mass production of transportation.

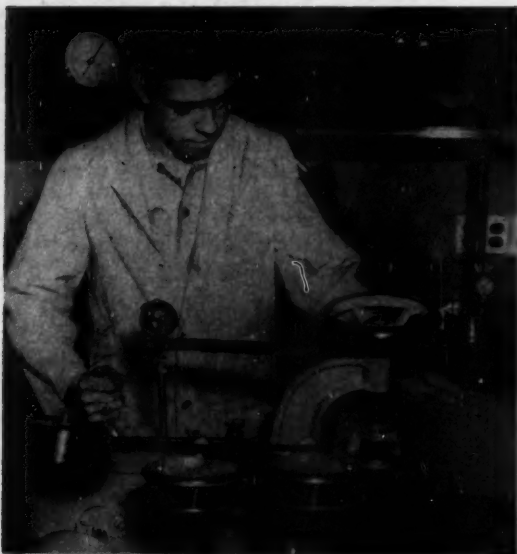
12. Many managements have re-designed their selling units to get bigger volume, successfully increasing sales only to find that excessive handling costs, due to bungled package design from the standpoint of material movement, have eaten up the increase and sometimes more.

13. Increased claims because of faulty packaging due to weaknesses designed into the primary container mean higher freight rates and higher prices for the product, which may shunt business to a competitor or a foreign supplier. Today, loss and damage claims are nearly five times what they were when the Perfect Shipping Campaign began 10 years ago. Out of 70 percent of all damage claims on carload freight, 60 percent are on packaged goods. In 1940, with much less volume than handled today, the railroads paid 20 million dollars on claims—in 1946 they paid \$94 millions. Largely due to faulty packaging, said the railroads. Freight loss and damage payments are chargeable to transportation expense, and

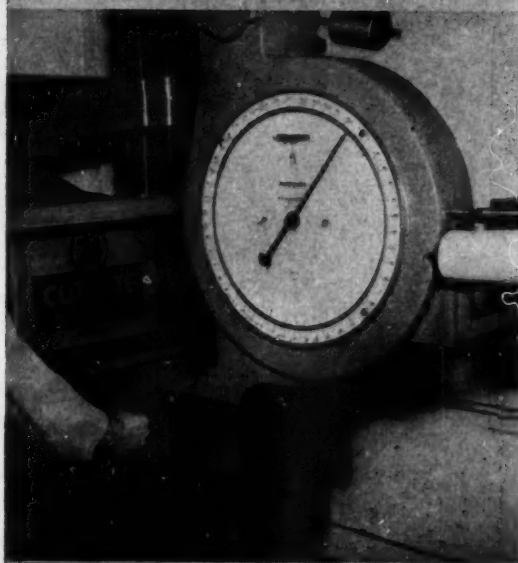
so the shippers pay for their own losses in higher transportation cost, the consumer pays more for the shippers' products, and everybody is out of pocket because money goes down the rathole when packaging is faulty. Much of this fault lies in non-cooperation between the sales department and the department that moves the goods to market. W. R. White, container engineer of the Union Pacific Railroad, states that the claim pay-outs by railroads, express companies and motor carriers in 1946 were 150 million dollars plus the expense of inspectors, investigators, clerks, etc., and that the claim pay-outs of his railroad alone would have bought 1,136 box cars.

14. Many times the sales department approves packaging materials without consultation with the materials handling executives and the resulting losses are high. Wrapping and packaging supplies should be standardized for maxi-

(Continued on Page 75)



Jumbo Mullen tester determines bursting strength of fibreboard in pounds per square inch. This is oldest test used in fibreboard industry.



Olsen Compression Tester measures resistance of finished fibre container. Inked stylus on cylinder at right records test in pounds pressure and fractional inches of deflection.



Suvant Stiffness Tester determines rigidity of fibreboard box under compression.

"The Bends" i

THE testing and designing of fibreboard containers are intimately linked up with the testing, designing and current utilization of materials handling devices. Tests are designed with existing lift trucks, pallets, conveyors and other mechanical devices in mind. Tests are also made with current transportation in view, and especially how packages are tied in trucks, banged around in freight cars or air-carried with nary a jolt. However, the container engineer must maximize protection to permit the requisite freedom of handling and shipment desired by the factory; he must be ahead of the game by devising new tests and new precautions so that, no matter what happens after the package leaves the plant, the goods will be delivered in sound condition. In other words, the engineer must meet specific as well as conceivable eventualities. Primarily, he will devise testing instruments that will measure impact and other resistance under the specific conditions we are most interested in, and that is precisely what he is doing.

One device used is the *revolving drum tester*. This is an old but still valuable testing tool if properly used. It reveals the container's ability to protect the contents as well as to retain them. Its obvious limitation is that it does not measure resistance to compression and other important properties of a shipping container.

A *compression test* is used on merchandise such as soap flake cartons where stacking loads must be carried by the walls of the container and not by the contents. Such a test, however, means little when applied to the top of a case of canned goods because the cans themselves are so strong in that di-

in Containers

Ingenious devices for testing impact resistance and other characteristics of fibreboard containers have been developed to the degree where little is left to chance . . . The increasing multiplicity of items shipped makes the use of modern testing techniques and equipment imperative.

By J. D. MALCOLMSON

rection. End compression on can cases is valuable but a drum test is more so. Glassware and liquids in glass are naturals for a drum tester, although a *drop test* is preferred by some shippers. Heavy or massive articles such as washing machines or refrigerators in fibreboard are best tested with an impact tester such as the Conbur. Case eggs are often subjected to a vibration test. The components of fibreboard boxes are also subjected to various tests. This is really another subject, so we will only mention some of the more important tests such as the Mullen, Cady, Caliper, Rigidity, Puncture, Weight, and Score.

Many large shippers have installed laboratories of their own where one or more of the desirable container qualities can be evaluated with standard testing machines. These instruments can be purchased or, as in the case of a compression tester, can be constructed at home. Most of the

home made compression testers are built over a platform scale. However, it is not necessary to have your own testing laboratory. There are excellent custom laboratories available, fully equipped to test every property of a container. Two of the best known are the Don L. Quinn Co., Chicago, and the Container Laboratories, Inc., of New York City. Several public or semi-public institutions also have box testing equipment. Examples are the U.S. Government Forest Products Laboratory at Madison, Wisconsin, and the Institute of Paper Chemistry, Appleton, Wisconsin. The armed forces also maintain several testing laboratories of their own.

In the early days of box testing, it was soon found that most results are considerably affected by the moisture content of the fibreboard which in turn depends on the relative humidity of the atmosphere. Therefore, whenever possible this work should be done at some con-

stant relative humidity and temperature. Most box testing laboratories operate at 50% R.H. and 73° F.

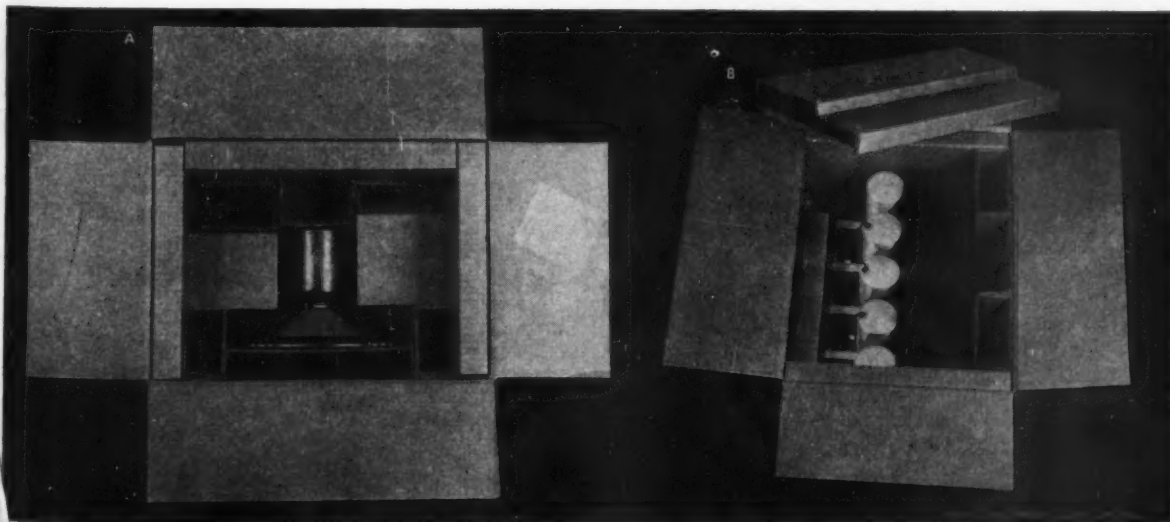
These constant conditions not only make possible a dependable comparison of day-to-day results but also prevent many misunderstandings. For example, a corrugated box maker might guarantee a top to bottom compression of 900 lb. on an empty corrugated container at 50 percent R.H. and 73 degrees F. If this box is later tested by the customer on a humid summer day (80 percent R.H.) without conditioning it would test about 600 lb. or only $\frac{2}{3}$ of the guarantee.

On another occasion, a customer complained that a shipment of 200 test corrugated boxes were averaging only about 185. An investigation showed that the customer was testing the boxes in a mid-summer atmosphere of between 80 percent and 90 percent relative

(Continued on Page 65)

A. Loud speaker assembly ready to ship.

B. Two-stage packing of radio chassis.



Pattern for Industry



NAVY HANDLING AND PACKAGING SHOW



Safety, efficiency and economy are promoted by fork truck controls standardized to Navy specifications.

Standard box car cross-section, showing proper and improper pallet load sizes. Pallet load at right, top, has overhang, resulting in great loss of load space.

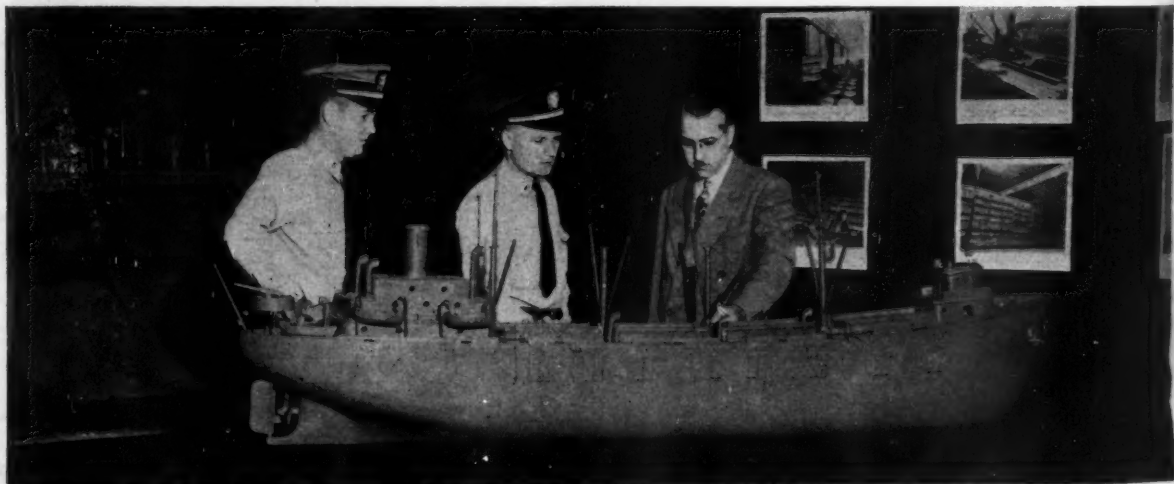


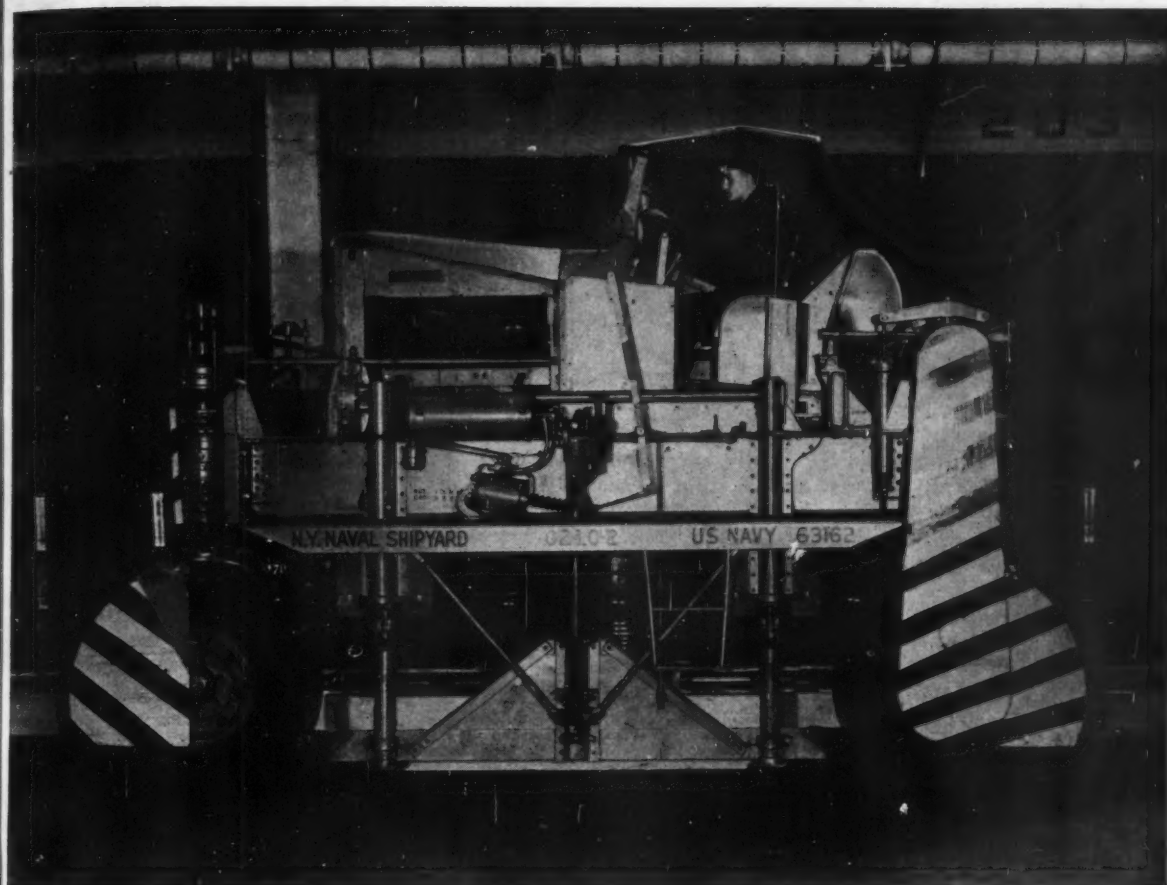
The Bayonne materials handling-packaging conference, held jointly by the Navy and the Navy Industrial Assn., demonstrates current progress in the use of modern techniques and equipment in distribution . . . It points to the fact that efforts must be concentrated on standardization in materials handling and packaging in order to produce a pattern usable commercially and particularly in case of war.

By THEODORE WHITMAN

Associate Editor

Proposed standard dry cargo ship design maximizes loading space and reduces loading at stern and frees rest of ship for dry cargo space.





Lumber carrier ingeniously converted to drum carrier. Drums, on huge pallet, are straddled by carrier, lifted as a unit and carried away to destination, where they are gently deposited.

THE postwar development of new ideas, techniques and equipment has been pronounced in materials handling and packaging, according to the Navy and the Navy Industrial Assn. Some results obtained have been remarkable, particularly in reducing man-hours, saving money, increasing storage capacity and reducing pilferage. Of utmost importance, industry's eagerness to develop and utilize modern methods and promote standardization will, in time of emergency, strengthen national security by insuring the smooth and swift flow of material. Both industry and the military have a vital stake in this matter. These principles and procedural concepts were basic to the September 28 Bayonne Conference, held by the Navy and the NIA. This show was further highlighted by

the presence of Admiral Denfield, Rear-Admiral Foster and others, whose speeches set the tone of the conference, that of preparedness and progress.

Appropriately set at the entrance to the exhibition hall was a novel container for a jet motor. The motor was enclosed in an airtight, double cylindrical shell of steel, which was then "packaged" in a steel framework for shipment by rail or sea. This framework is removable when shipped by air. Other exhibits showed the great attention given to adequacy of packaging and precautions against rust and corrosion. Stress was laid on use of either plastic coats on critical mechanical parts or use of desiccants within the package. Lastly, stress was laid on package resistance to damage while in transit.

Training courses given at the Bayonne Supply Corps School included the testing of various methods of packaging by means of the Conbur impact tester. Palletized loads, steel strapped or glued, were sent down an incline, to strike against an obstruction. In the case of the glued load, consisting of fibreboard boxes filled with light commodities, several incline tests showed the load to hold up well; though showing some partial cave-ins in the case of strapped wooden boxes filled with steel corner braces, the second test caused boxes at the point of impact to partly break open. At the third test, boxes opposite to the point of impact also partly opened, only the nails at one side preventing the contents from falling out.

The glued loads were set on the
(Continued on Page 49)

INGENUITY PAYS OFF

Standard materials handling equipment can be adapted to many special applications . . . Equipment producers are glad to cooperate with users in the solution of tough handling problems.

By ROY DENIAL

FROM an automobile tire's unpretentious appearance, one would hardly suspect the myriad material handling problems involved in its production. Over at the Detroit plant of U. S. Rubber Co., they've found that the most expedient control of rubber and its components calls for a high degree of inventiveness. Accordingly, in its manufacturing operation this large producer has developed several different methods of transporting rubber and rayon fabric, and these are making for considerable savings in costs.

In order to make a tire, rubber and rayon tire cord fabric both have to be extensively processed. The latter has proved to be by far the greater problem in production because of the delicate handling required. For if a 1,350 lb. roll

is bumped or dropped, it may partially unravel, ruining it for processing. Or if the roll is partially processed, damage may cost the company precious man-hours while the fabric undergoes repair.

Through the years, damage to rayon rolls was common-place, less from carelessness and more from trucking devices not perfectly suited to the tasks they were performing. Lately, however, the internal transportation department has made notable progress in adapting ordinary tools for greater effectiveness.

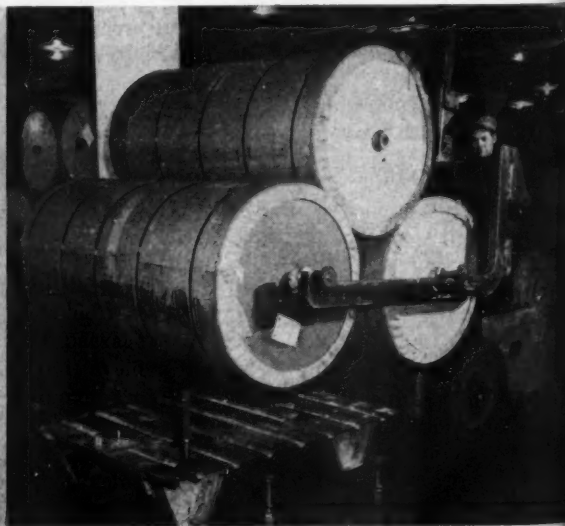
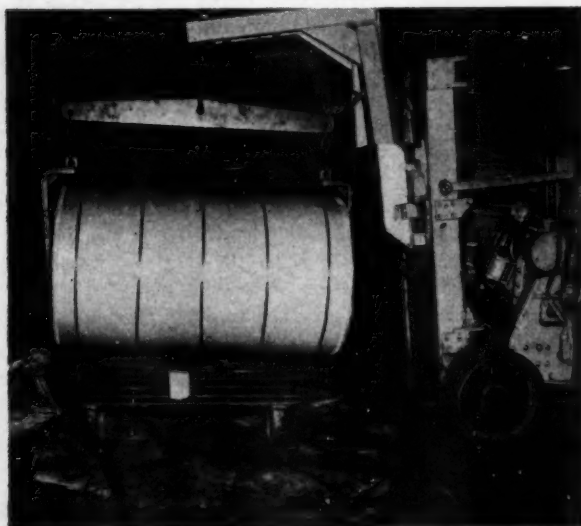
The initial blow to inefficient handling was delivered at the very point that rayon tire cord fabric first entered the factory, where box cars filled with this material were awaiting unloading. Covered with cardboard and bound with steel bands, these rolls were

stacked two-high. The system by which the crew formerly moved rolls out of the box car and into the plant was at best only an expeditious system, and one requiring five men. Four inside the car lifted the heavy cylinder onto a hand truck which the fifth worker had wheeled up the gangway. Then three of the crew guided the unwieldy load back onto the platform where the roll was dumped onto a skid. Frequent awkward control of the rayon fabric in getting it from the rail car to the skid caused the cardboard cylinder ends to break open, allowing rayon threads to spill from the package. Even while being transported by hand truck, the rayon was not entirely safe from injury. Being moved upright, the 1,350 lb. weight frequently exerted such pressure on the bottom of the con-

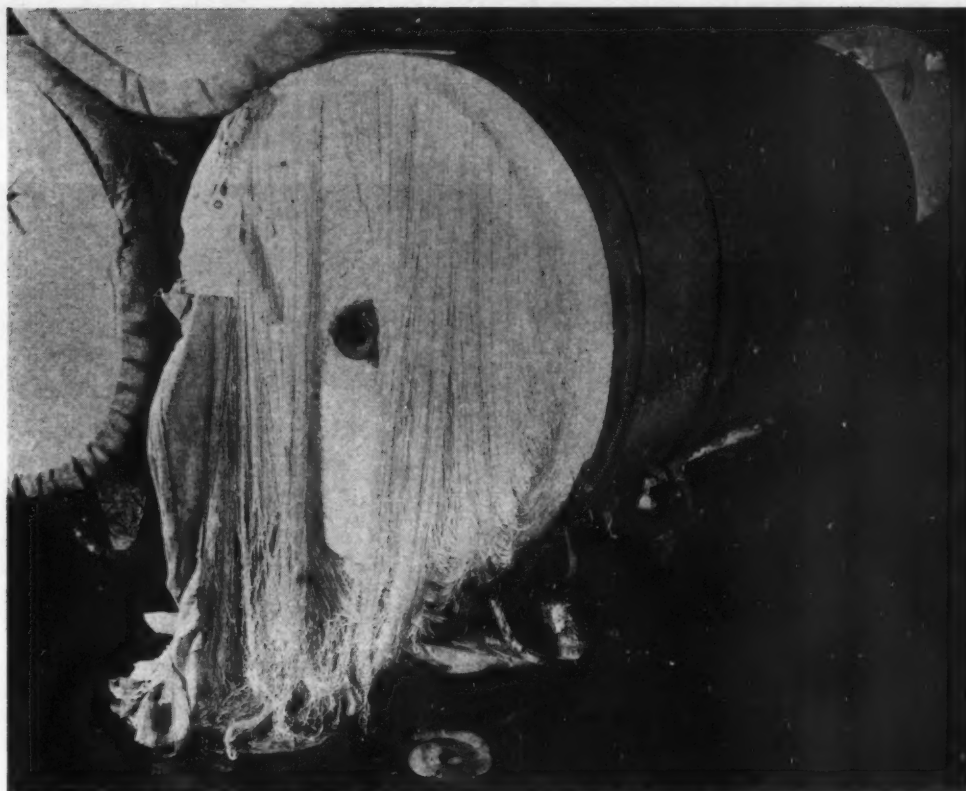
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The "boom" truck lifts a roll from the car and deposits it on a skid. The "arm" truck can lift a full skid-load without damaging rolls.



OFF



Rough handling of these 1350 lb. rayon tire cord fabric rolls causes damage like this.

veyance that the steel lip cut up into the roll. Here again the cardboard cover would split, baring the rayon threads. Such a method of moving rayon rolls from rail car to loading platform resulted in steady and severe loss of material and labor.

Since injury to cylinders us-

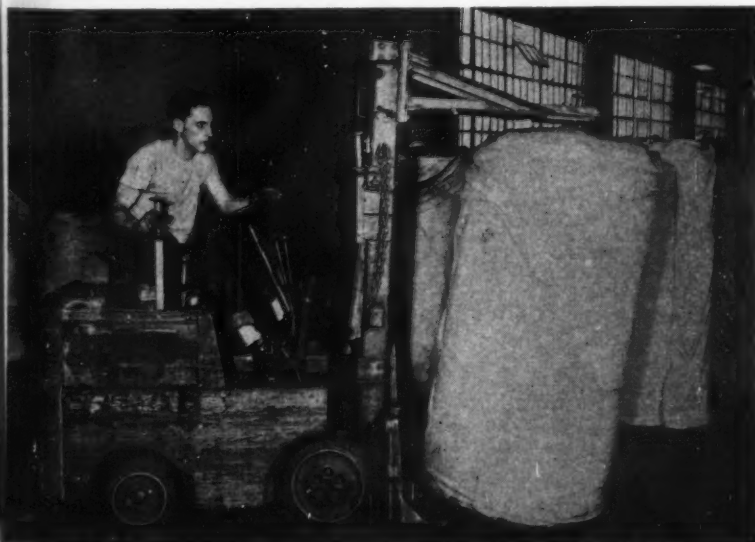
ually occurred at the ends, the trick was to complete unloading without pressure on vulnerable parts. This was achieved by modifying a two-ton battery-type fork truck. The vehicle currently being used has, in place of forks, a heavy boom which can be raised or lowered. At one extremity of the

boom, a swivel hook grips a 5-ft. steel crossbar from which are suspended two chains, each of which holds a steel pin large enough to fit securely into the ends of the rayon fabric roll. Through the use of this special-type "boom" truck, the entire loading operation has been substantially simplified. Note the system:

First, only three men instead of five are needed. Two of the crew proceed into the box car ahead of a special truck which suspends its boom over the pile. The two men then insert a steel pin into each end of the cylinder's wooden shell, after which the vehicle operator raises the boom (clearing the load) and backs down the gangway. From there it's a simple matter to swing the conveyance around, deposit the roll gently on a skid, and move back for the next one. Aside from necessitating fewer men for unloading, this special fabric-handling "boom" truck today accomplishes the operation expeditiously with little or no damage.

The next step in the manufac-

Here a calendered rubbered fabric roll is being safely moved by the "chisel" truck.



(Continued on Page 51)

Reducing Costs Through Integration



Butler's annual transportation bill runs well into the millions . . . Here J. M. Cody tells us of a plan, developed by the general traffic department in close cooperation with the company's selling, accounting and financing divisions, that is paying off many times over in lower distribution costs.

DURING the past two years, Butler Bros. and Scott-Burr Stores Corp. has been giving much attention to a special program to broaden the distribution services of its traffic department. Previously, it had been assumed that its chief responsibility in traffic was three-fold: (1) supervising company shipping and receiving; (2) bargaining with carriers on transportation services and charges; and (3) collecting claims against carriers.

Now the traffic department has expanded its work to include more direct coordination with the company's buying, selling, accounting and financing divisions. Stated another way, it has developed methods to make its traffic services company-wide. The program is being directed by the general traffic department in Chicago, through the traffic departments of the company's six main wholesale distribution houses in Baltimore, Chicago, Minneapolis, St. Louis, Dallas and San Francisco, which last year supervised the transportation of general merchandise to some 30,000

retailers in all parts of the United States.

The plan to make traffic services company-wide is a two-way program with a strong educational background. First, the supervising personnel of the traffic department must keep closely in touch with the every-day activities of the buying, selling, accounting and financing divisions. Second, selected supervising personnel from each of these divisions likewise must keep in close touch with all relevant

By J. M. CODY

*General Traffic Manager
Butler Bros. & Scott-Burr Stores
Corp.*



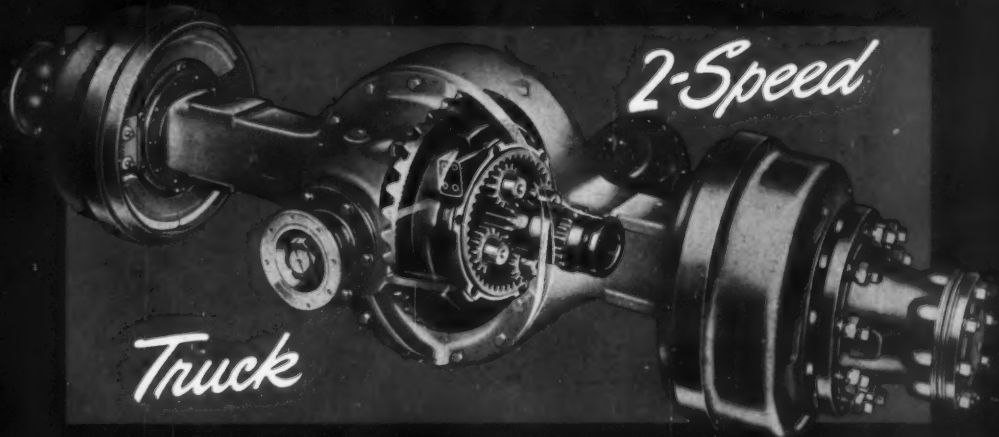
traffic department activities. This educational background is being achieved in part through traffic conferences. At such conferences a representative will summarize pertinent traffic problems.

As applied to the company, every dollar's worth of general merchandise distributed must utilize one or more forms of government regulated transportation. Therefore, success will depend to some degree upon making the best use of each mode of transport. The company's buying organization must select merchandise where merchandise can be found. Then it in effect tells the traffic department to take over.

Thus, during the year the buying organization will have placed at the traffic department the responsibility for paying out millions of dollars to transportation companies. These buyers will be purchasing tangibles—goods that they can see. In contrast, they will be asking the traffic department to deliver these goods through the buying of intangibles—transportation.

(Continued on Page 42)

EATON



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Stand Up Longer Because Axle Housing Deflections Can't Affect the Planetary Gears

The planetary gears of the Eaton Axle are self-aligning under load. This means that they are not affected by distortion of the axle housing. Improper tooth contacts are, therefore, minimized. This exclusive Eaton advantage results in lower upkeep expense and longer axle life. See your truck dealer for complete information.

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Call your local Remington Rand specialist, or write Department DA-11, 315 Fourth Avenue, New York 10, N. Y.

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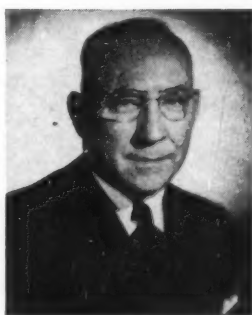


CARRIER COOPERATION

Close cooperation with the shipper is the keynote of modern railroading . . . Union Pacific accomplishes this in several ways: its daily livestock special, its agricultural bureau's booklets and instructional motion pictures, its Gray awards, its packaging bureau, and its new re-icing plant.

CLOSE cooperation between carrier and shipper is the keynote of successful railroading. With that premise in mind Union Pacific is constantly striving for a closer relationship with the many industries it serves, not only in the usual channels, but also in many fields outside the realm of carrying freight and commodities.

As part of this overall program of cooperation, we have placed in service a new livestock train which rushes cattle to market on passenger train schedules; we have established an agricultural bureau which advises farmers on methods of improving their crops and shipping their produce to the greatest



By **GEORGE F. ASHBY**

*President
Union Pacific Railroad*

advantage; we employ a staff of packaging experts who advise manufacturers on proper packaging to cut down freight claim losses; and we maintain a host of other services whose primary purpose is to

coordinate more closely the relationship between the carrier and the shipper.

One of our most successful projects is cooperation with cattlemen. We recently inaugurated a daily livestock special operating between Ogden, Utah, a gathering point for cattle, and Los Angeles. This train makes the trip on passenger train schedule, less than 30 hours for the 820-mile trip. To maintain this fast schedule, the bright yellow and red cattle cars are being equipped with roller bearings and the train powered by a 6,000 h.p. Diesel locomotive. As a result of the inauguration of this new train, shippers are spared the expense of

(Continued on Page 57)

Charting Materials Handling Procedures

Here is a "triple threat" to high materials handling costs . . . it consists of a materials handling planning department; of a group of industrial engineers to develop cost control methods, and increased departmental and operational coordination.

REALIZING that, in the installation of scientific methods and modern devices in the field of materials handling, there lay the opportunity to materially cut costs of production, Emerson-Electric's St. Louis plant approached the problem from two directions: first, a department of materials handling was set up under a manager, with a goods movement foreman as assistant; secondly, the firm's industrial engineers began working on a system designed to determine and keep track of materials handling costs.

Coordination of operations in the various departments of the plant was one of the first objectives of A. J. Ressel, Materials Handling Manager, to insure a continuous flow of raw material to production, in accord with a predetermined

schedule. The flow then covered the collection of parts entering into assemblies; final assemblies; tests; packaging and then movement into outward shipment. The goal set by Mr. Ressel is a system whereby there will be a minimum number of operations involving pick-up, movement and deposit of loads, and increasing the quantities of items handled per single operation.

After the ground-work had been laid, certain recommended procedures were made operative. For instance, castings formerly handled in small numbers now are being handled in quantity on box-skids. Another example is a specially-devised cage type of container-skid for combining fan guards, fan blades and other light but awkward-to-handle items into unit loads.

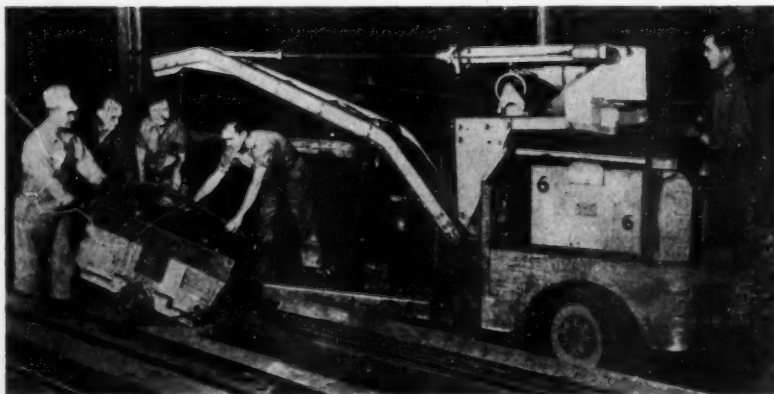
This special type of skid is used in storage and handling operation. Moved by battery-powered trucks, it is placed adjacent to workers' benches in the assembly department.

In the handling of refrigerator and other small motors, use is made of pallets. Several layers of motors, with separator-boards between them, are steel-strapped to form a unit load. Battery-powered trucks are used for moving these loads as well as tiering them in temporary storage. Packaged products are similarly moved to storage areas and later removed to outward shipment on two-faced pallets which permit multiple stocking with a resulting saving in floor space.

Although such incoming supplies

(Continued on Page 56)

Battery-powered industrial crane truck in process of moving and positioning the die plate of a heavy punch press.



Here a fork truck moves a special bi-type dollie containing sheet metal parts to general stores.

HYSTER "40"

GO TO YOUR HYSTER DISTRIBUTOR FOR CURRENT DELIVERY

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BIRMINGHAM, ALA.—S & T Equipment Co., Inc.
BROOKLYN, N. Y.—A. S. Rampell
BUFFALO, N. Y.—Rapids Handling Equipment Co. of Buffalo, Inc.
CALGARY, ALTA.—A. R. Williams Machy. Western, Ltd.
CHATTANOOGA, TENN.—Embry Brothers, Inc.
CHICAGO, ILL.—Hyster Company
CINCINNATI, O.—Oral T. Carter & Associates
CLEVELAND, O.—Morrison Company
DALLAS, TEX.—C. H. Collier Company
DENVER, COLO.—Paul Fitzgerald
DETROIT, MICH.—Bentley & Hyde
GRAND RAPIDS, MICH.—Bentley & Hyde
HALIFAX, NOVA SCOTIA—A. R. Williams Machy. Co., Ltd.
HONOLULU, T. H.—Electric Steel Foundry Co.
HOUSTON, TEXAS—C. H. Collier Company
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KANSAS CITY, MO.—Industrial Power Equipment Co.
LOS ANGELES, CALIF.—Hyster Company
LOUISVILLE, KY.—Embry Brothers, Inc.
MEMPHIS, TENN.—Hyster Co. of Louisiana, Inc.
MILWAUKEE, WIS.—Hyster Company
MINNEAPOLIS, MINN.—W. S. Nett Company
MOBILE, ALA.—S & T Equipment Co., Inc.
MONTREAL, P. Q.—A. R. Williams Machy. Co., Ltd.
NASHVILLE, TENN.—Embry Brothers, Inc.
NEW ORLEANS, LA.—Hyster Company of Louisiana, Inc.
NEW ROCHELLE, N. Y.—Eastern Industrial Sales Co.
OTTAWA, ONT.—A. R. Williams Machy. Co., Ltd.
PHILADELPHIA, PA.—Rapids Handling Equipment Co. of Phila., Inc.
PHOENIX, ARIZ.—Equipment Sales Company
PITTSBURGH, PA.—Equipco Sales Company
PORTLAND, ORE.—Hyster Sales Company
RICHMOND, VA.—Richmond Auto Parts, Inc.
ROCHESTER, N. Y.—Rapids Handling Equipment Co. of Buffalo, Inc.
ST. JOHNS, N. F.—City Service Company, Ltd.
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SAN FRANCISCO, CALIF.—Hyster Company
SEATTLE, WASH.—Hyster Company
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VANCOUVER, B.C.—A. R. Williams Machy. Western, Ltd.
VICTORIA, B.C.—A. R. Williams Machy. Western, Ltd.
WINNIPEG, MAN.—A. R. Williams Machy. Western, Ltd.
YUKON TERRITORY—Northern Commercial Company

HYSTER COMPANY

THREE FACTORIES

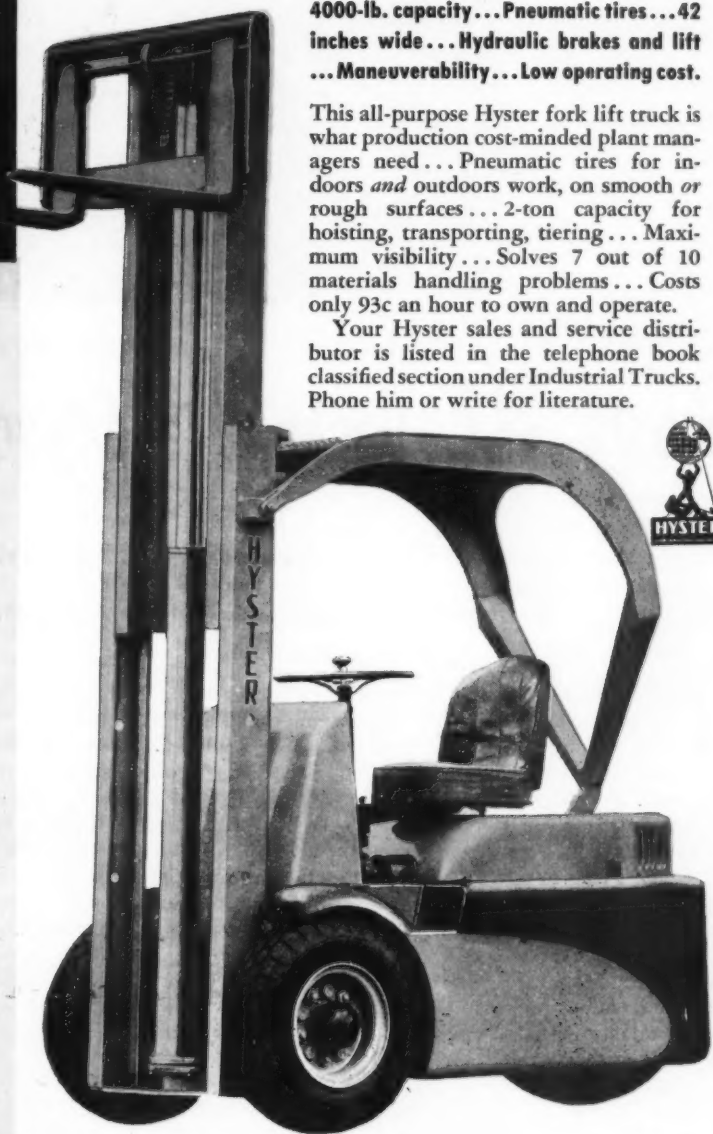
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This all-purpose Hyster fork lift truck is what production cost-minded plant managers need...Pneumatic tires for indoors and outdoors work, on smooth or rough surfaces...2-ton capacity for hoisting, transporting, tiering...Maximum visibility...Solves 7 out of 10 materials handling problems...Costs only 93c an hour to own and operate.

Your Hyster sales and service distributor is listed in the telephone book classified section under Industrial Trucks. Phone him or write for literature.





should WE package and pack

... or should we makes use of services
performed by qualified outside companies?

THE problem of packing will never be met in a way that will satisfy everyone. There are those who recommend the advantages of using outside services, especially those which have proved to be economical over a long period of time. There are those who are equally voluble over the wisdom of maintaining company packaging and packing services. In either case, cries often are heard for a change from one policy to the other when something goes wrong. For example, "Again our packed merchandise isn't coming through fast enough. Let's put in our own equipment and personnel and do the job ourselves. It'll probably be a lot cheaper and better." Ir, "Our packing department is short of help again and production is behind. It's a headache from beginning to end. Let's call in a good service, turn everything over to them and our worries will be over. Besides, it will probably be a lot cheaper and better."

It is the purpose here to consider the type and extent of such outside services available for preparation of goods for sale and shipping, and some advantages and dis-

advantages for both outside contract and inside handling.

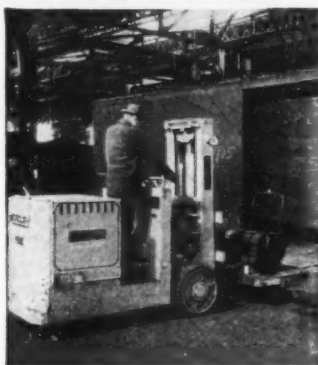
The manufacturer, producer, processor or other prime shipper of goods must decide on two, and sometimes three, counts the question of outside versus company packing and packaging one's own. The first consideration is in the assembling, pouring, weighing, counting, wrapping, labelling, packaging or whatever else is necessary to achieve the unit of sale. The second is in packing and crating, when it becomes a question of using a dependable outside service or having one's own shipping preparation department. The third place at which the decision must again be made is when large operations requiring nailed-wood shipping boxes and crates in quantity are involved. Shall these boxes and crates be purchased from an outside supplier or is it more advisable to have one's own boxmakers and equipment?

In the first case, packaging of the retail size package, there are actually three choices. The packer—as he is known to the trade—may be in fact a packer with his

(Continued on Page 52)

By **CHARLES L. SAPERSTEIN**
Packaging Consultant

MERCURY FORK TRUCK



MERCURY FORK TRUCK



Battery Electric Trucks and EXIDE-IRONCLAD BATTERIES

Help cut costs, save time, boost production

In plants where materials are handled the modern way . . . by battery electric trucks . . . every department benefits. Materials move more smoothly and in greater volume from processing, through warehousing to shipping. Savings up to 50% are not uncommon for they are made all along the line . . . savings in time, power, maintenance, operating costs. And when Exide-Ironclad Batteries supply the motive power, you can count on full shift availability, day after day, year after year.

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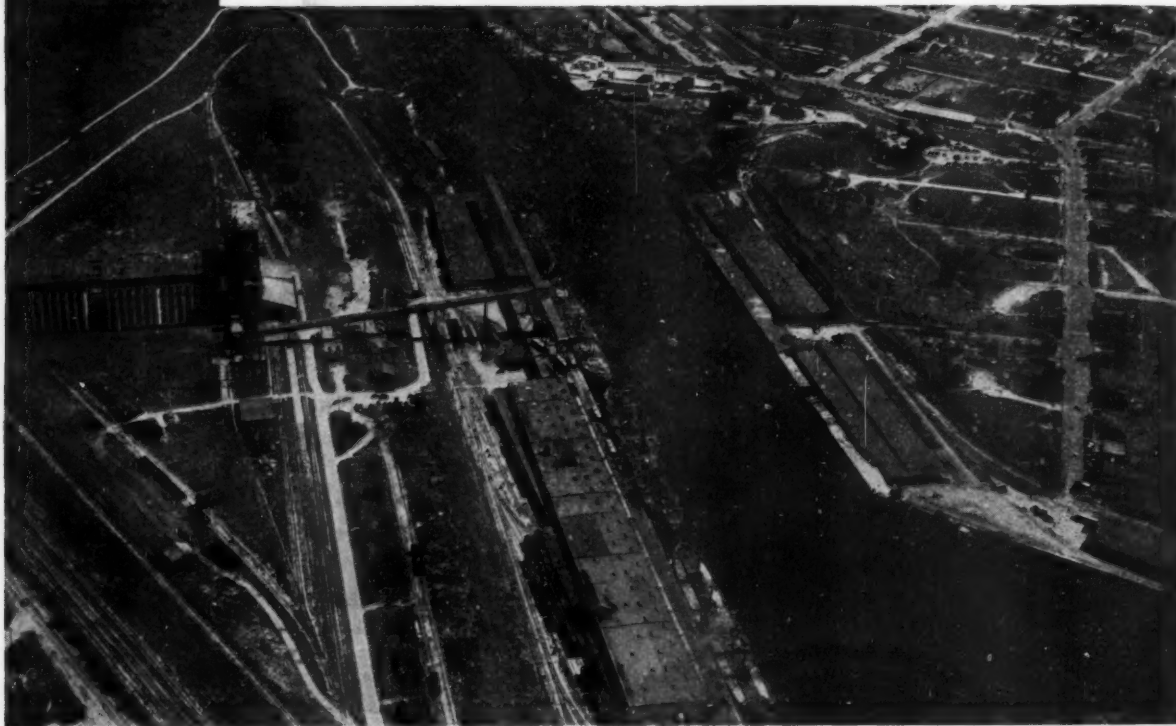
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NO

MBER, 1948

39

PROGRESSIVE PORTS



SKELETONS of structural steel and draglines hard at work are encountered at the Port of Houston where a 32 million dollar program is under way to expand and improve existing facilities and to create new ones for handling an ever-increasing volume of commerce. New wharves will be constructed and others are being rehabilitated. The Houston Ship Channel itself will be deepened and widened. Tunnels are being built under it. New handling equipment is being added. These improvements are being made as the port's tonnage increases rapidly and its civic and business leaders take on a new goal—to make Houston the nation's second port.

In 1947, commerce moving through Houston reached the record-breaking total of 34,143,777

tons, a gain of almost 10 percent over the previous year. And during the first six months of 1948, when American commerce generally was in a slump, Houston's trade increased 23 percent over the corresponding period in 1947, total tonnage rising to 19,996,093 tons. This is a good indication that the all-time high established in 1947 will be surpassed this year and that Houston is drawing nearer to its goal of being second only to New York in volume, Gen. W. F. Heavey, recently appointed manager of the port, said.

The improvement program, in keeping with the port's progress, will give Houston the most diversified and economical layout of terminal properties in the nation, according to Col. Wilson G. Saville, chairman of the Navigation Commission which administers the

publicly owned facilities. A contract has been awarded for construction of the first of seven new wharves to be built in Houston by the Navigation District which already operates facilities for berthing 18 ships. The new dock will cost \$1,734,693, and will be completed within 18 months. Its length will be 500 ft., exclusive of approach, its depth 250 ft. including the shed, and it will have an elevation high enough to meet the higher deck of the newer-type cargo ships. Three railroad tracks will be built on the apron. Within the wharf shed, a car shed extending landward and covering two railway tracks will be constructed. This will provide for the loading of boxcar freight in bad weather.

Meanwhile, work is j

NOV. AGE

...this month HOUSTON

The Southwest is experiencing an industrial and trade boom of unprecedented proportions. Responding to this growth, the inland Port of Houston, located on a deep-water ship canal, is pushing dock and materials handling equipment improvements of significant proportions to meet an ever-pressing demand.

on remodeling two present docks at a cost of nearly one million dollars. One will have as a special feature an overhead bridge at roof elevation of the wharf shed over which cargo can be transported from the water side directly into a warehouse instead of through the wharf shed. All these projects are part of the Houston Navigation District's nine million dollar construction plans. In addition, new facilities such as a bulk handling plant which will unload any type of railroad car at a minimum rate of 40 cars per hour will be installed. Heavy lifts also will be purchased.

Another major improvement is scheduled at Morgan's Point, halfway mark on the 50-mile long ship channel. There a holding wharf and communication station equipped with radar and other facilities will be constructed. Traffic controls will be set up so that ships may proceed down the channel rapidly and safely, especially at night, and anchorage provided for ships awaiting dock space in Houston. When the seven new wharves are completed, Houston will have berth space for 80 ships. The navigation district will have 24; Long Reach Docks of the Houston Wharf Co., eight; Manchester Terminal Corp., four; Sprunt Docks, or the Houston Ship Channel Compress Co., two, the remaining 40 being owned by private industries.

In addition to the Navigation district's nine million dollar program, the overall 32 million dollar program includes 10 million dollars for widening and deepening

the waterway, and 13 million dollars for construction of two vehicular tunnels under the Ship Channel. Congressional approval already has been given to the widening and deepening projects, and an initial appropriation of \$500,000 made to begin the widening phase of the work. The channel width will be increased by 100 ft. from the Turning Basin to Morgan's Point, a distance of 25 mi. The channel depth will be increased from 34 to 36 ft. These improvements will greatly facili-

tate movement of ships from Deep Sea to the Turning Basin and allow the largest ocean-going ships afloat to navigate the waterway.

Construction has begun on one of the two vehicular tunnels which will span the bottom of the Ship Channel and which will eliminate surface cross-channel traffic. The 7.5 million dollar Galena-Park-Pasadena tunnel will be completed within two years. Ground-breaking for the second at Spillman Island is scheduled soon. Many other improvements have been

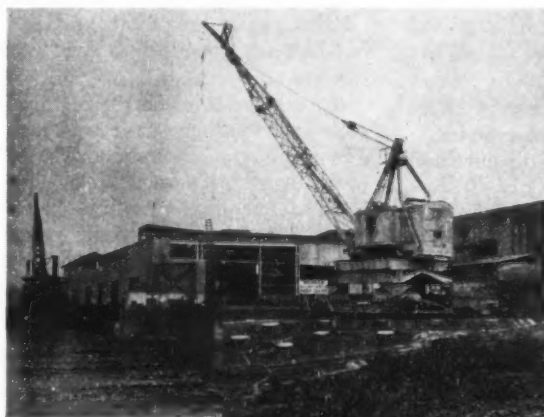


Fig. 2. This dock, when remodeled, will have overhead bridge connection to a warehouse, permitting loading from a platform on the water side.



Fig. 3. Manchester Terminal Corporation, located on the Houston Ship Channel.

completed within the past 18 months. Approximately a million dollars was spent to increase the efficiency of the port terminal railroad facilities. One of two planned railroad yards has been completed.

A new \$137,000 grain car dumper capable of delivering 250,000 bushels of grain daily from railway cars to the hoppers of the 3.5 million-bushel capacity grain elevator was installed. Two copra blower units able to take care of from 20 to 30 tons per hour were purchased at a cost of \$50,000. The private terminals constructed thousands of pallet boards and acquired much new equipment in a great extension of palletization

and mechanical loading and unloading of cargo in the interest of speed and economy.

The Port of Houston, busier than ever before, is handling large volumes of tonnage under the European Recovery Program, which is, of course, government sponsored. But the port also handles a growing volume of foodstuffs being sent to Venezuela under Nelson Rockefeller's Venezuela Basic Economy Corporation program to bolster the economy of that Latin-American country; this is a private venture.

The building program now under way is not based upon expectations that government-bolstered trade will continue into the indefi-

nite future. Houston's channel, already lined with a billion dollars worth of industries, attracts more daily. One chemical plant is coming which will ship 270 thousand tons of one product alone per year through the port. Others just as big are on the way.

Houston, gateway for the Nation's most rapidly developing industrial area, builds and plans to serve the normal commerce which the expanding Southwest and Middlewest are creating. Like the city of Houston itself, the port, despite the tremendous strides it has taken during the 32 years since it was opened to deep sea commerce, still stands on the threshold of its greatest growth.

REDUCING COSTS

(Continued from Page 32)

tion which must be purchased on faith. The traffic department can't stack up in a corner the millions of dollars worth of transportation which must be bought, and then examine it, like shoes and toys, to see if the company is getting its money's worth. Yet the annual cost of traffic will be much greater than the amount some of the merchandise divisions will pay out during this same period for all the goods purchased.

The company's buyers in effect say to the traffic department: "During the year we will purchase hundreds of millions of dollars worth of merchandise; and we want you to assume complete responsibility for its safe carriage. These goods, for periods of five to 30 days, will be completely out of our control. But even though your traffic department does not buy any insurance or pay any insurance premiums, you must give our goods complete insurance protection."

However, in the movement of such a great volume of goods, it is inevitable that there will be some shortages, losses and damages. Hence, one of the purposes of the traffic department's educational program is to inform other company divisions how they best can cooperate to help control such losses.

These divisions are also informed

about methods of selecting carriers for the large volume of shipping. For instance, during March 1948 10 million tons of merchandise was received. Such control was exercised over this movement that less than 29 per cent of this tonnage moved at higher l.e.l rates. This included all shipments by express, parcel-post and freight forwarders. Of this 29 per cent total, less than one-half of 1 per cent moved via express.

To achieve this control required close coordination with the buyers. When a buyer selected a new item or a new source, he sent the general traffic department a "source sheet" describing the item, freight terms, vendor's name and address, and point of shipment. Based on this, the traffic department sent the vendor specific shipping instructions.

Since the company's merchandise originates mostly in a few industrialized cities, it developed its own consolidated rail cars out from Boston, Philadelphia, New York, Chicago and St. Louis to most of its houses. To effect transportation savings and improve this service the company joined with a few other large shippers in a non-profit cooperative car consolidation operation.

Thus it operated cars daily and obtained carload rates, plus a charge for loading, handling and

incidental expense. It set up an arbitrary charge for overhead, and at the end of certain prescribed periods any excess revenue over expense was refunded to the members. For the year 1947, as an example, this overhead arbitrary charge was estimated in advance so closely, and then so closely controlled that a reduction in handling charge of only one cent per cwt. would have created an operating loss. Analysis of the total 1947 charges showed an overall freight saving of 62 cents per cwt.

One special advantage from this consolidation has been carload service that has compared favorably with express. The maximum holding time at loading point is two days. There are several cars every day from New York to Chicago, Chicago, Minneapolis and San Francisco highrated merchandise is handled over Chicago. New York cars for St. Louis and Dallas run every day. Dallas freight is loaded over St. Louis. Where through carload rates are in effect, San Francisco merchandise is loaded direct to San Francisco from New York, Philadelphia and Boston.

Cars operate every day from Chicago to Dallas, San Francisco and Minneapolis, with a transit time of three days to Dallas, two days to Minneapolis and eight days to San Francisco. Cars are operated daily from St. Louis to Dallas with a two-day transit time. Also, cars are now being operated direct

(Continued on Page 56)

Lumber Handling

At Port Newark, N. J.—The Number One East Coast lumber port

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AMERICAN SOCIETY OF TRAFFIC

(Continued from Page 21)

rier, industrial, and government transportation and traffic executives was called at Cincinnati by the Associated Traffic Clubs of America to formulate preliminary plans and to set up a temporary organization group—provided the sense of the meeting was that the proposed plans should go forward. It was unanimously agreed that this should be done.

Commissioner Aitchison, the distinguished senior member of the Interstate Commerce Commission and then its chairman, was invited to discuss the proposal from the standpoint of one in government service. In his paper, he expressed not only his personal endorsement of a program to establish and test the attainment of professional status, but conveyed the encouragement of the entire membership of the Interstate Commerce Commission. He stated, "In the first place, it is hard for me to imagine what could be said in derogation or discouragement of such an effort. When the kind invitation extended to me was presented in a conference of the entire Interstate Commerce Commission, my colleagues unanimously expressed their opinion that any effort, such as we understood now to be contemplated, is worthy of every encouragement, and I am privileged to say as much."

Subsequently, meetings were held by the temporary officers and directors to draw up a plan of organization and operation. This plan was presented to the larger organizing groups. The first annual meeting of the Society was held at Columbus on October 2, 1946. At this meeting the first panel of regular officers and directors was elected. Articles of incorporation were drafted, and an Indiana non-profit corporation was formed. The constitution and by-laws were adopted by the Society at this meeting.

Emergence of Professions

The development of the professional status of transportation and traffic management is following the same general pathway that

other professional groups have followed. The category of recognized professions is growing continually. New professions appear as business techniques and practices change and develop. Each of the ancient learned professions—law, medicine, the church, education, and arms—tend to develop specialized subdivisions as the body of knowledge and technical data grows more complex. There is not one but a score of medical professions—internal medicine, surgery, dental surgery, ophthalmology, pediatrics, to mention only a few. There is not one but a number of subdivisions of the legal profession. In addition, as industry and commerce become more complex and highly specialized, a number of engineering professions have emerged. Accountancy in several branches has become recognized as a professional calling; insurance has gained that recognition; sales management and purchasing are in the development stage.

Characteristics of a Profession

The designation of a vocation as a profession should not be used without examining the characteristics of the vocation to determine whether or not it has professional characteristics. The term "profession" should not be used lightly. A profession may be defined as a calling or vocation, especially one that requires primarily learning and mental rather than manual labor. It is a vocation requiring mental training and mental effort. It is a job, plus specialized knowledge, training, and a spirit of service.

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In 1896, the United States Supreme Court, in *United States v. Laws*, stated that a profession is a vocation in which a professed knowledge of some department of science or learning is used by its practical application in the affairs of others. "The word implies professed attainments in special knowledge as distinguished from mere skill, a practical dealing with affairs as distinguished from mere study or investigation,—an application of such knowledge to use for others as a vocation."¹ The designation profession should not be used without caution because all vocations, important and honorable as they may be, are not professions. There must be the elements of technical training, application to practical problems, ethical standards and the spirit of service, in order that a vocation may be a profession.

Dr. Arlion Johnson, Dean of the Graduate School of Social Work, University of Southern California, has stated the criteria of professional standard in this concise form: "Five hallmarks there are that any occupation must bear, or five criteria that it must meet in order to be called a profession are: 1. Special competence in the performance of a service. 2. Education, both general and special, which insures competence. 3. Research, which gives a profession the right to be called 'learned.' 4. A sense of brotherhood or consciousness of bonds between the practitioners that induces formal association, or organization. 5. Motivation in favor of the public interest."²

The hallmarks of professional status from the standpoint of transportation and traffic management have been stated by the present writer on another occasion to include the following essential elements: 1. An adequate body of technical data to be mastered in order to acquire requisite technical skill. 2. The existence of a body of materials for study organized for presentation and study in order to assist students to acquire the requisite technical and gen-

¹ 163 U. S. 258, 1896.

² Journal, American Dental Association, September, 1944; pp. 1181-1182.

(Continued on Page 61)

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Transportation Facts

THE first of three non-condensing steam turbine electric locomotives has been built for the Chesapeake and Ohio Railway Co. Able to do up to 100 m.p.h. and powered through a 6,000-h.p. turbine, the engine is a single unit with coal hopper in the nose and a mechanical stoker to feed the firebox. The customary tender carries only water. Built by Baldwin Locomotive Works for passenger service.

Illinois Central will receive its fourth award in five years from the National Safety Council for service to safety. The road had an employee casualty ratio of 1.95 per million man-hours worked in 1947, a 93 percent reduction from 1923.

The Shippers Advisory Board predicts that railroad carloadings in six Eastern states and the District of Columbia for the last quarter will increase 1.6 percent above the last quarter of 1947. This will be largely due to increased shipment of raw and processed food and chemicals.

The brass was heavy at the formal activation of the Fourth Military Railway Service of the Organized Reserve Corps at a dinner in the Statler Hotel, Washington, D. C., September 12. The AAR, which sponsored the service unit, was also very much in evidence. The objective of the Reserve Corps plan is to form trained manpower reserves in case of a national emergency.

United Air Lines now offers simplified and faster methods of handling joint motor carrier-airline freight shipments. Only one through document is required for originating or delivery shipments for the Great Lakes states area and West Virginia, under tariffs filed with the ICC. Combination air-ground shipments will get special handling, protection and pick-up and delivery services.

Freight forwarders by air have been authorized to engage in business for five years, thus permitting middlemen to consolidate cargo shipments. Their fees will be based on the differential between the rates for large and small shipments.

Barge traffic has increased 30 percent over last year, according to Chester C. Thompson, president of American Waterways Operators, who based his estimate on barge traffic so far this year. One reason for this increase is the increasing spread between barge and railroad rates. Benefits from the lower rates are accruing primarily to big producers and shippers, since private barge operators are only interested in barge-lot transactions while the Government-owned barge lines are neglecting small shipment business. Since July 19, the Government lines are taking shipments only when in excess of 39 tons. Under these circumstances, it is noted that the Upper Mississippi Waterway Association has filed a complaint with the ICC asking it to require the governmental agency

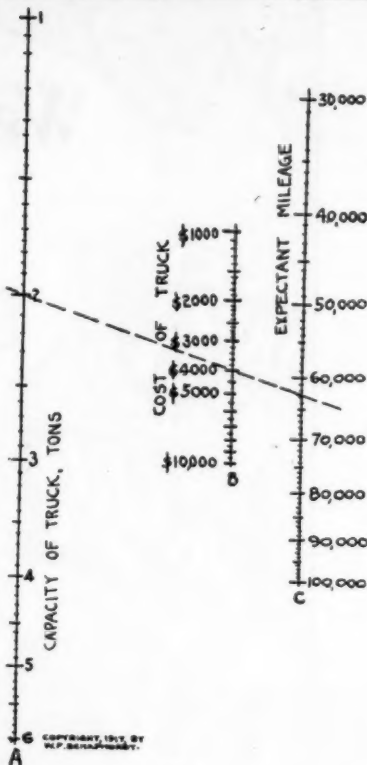


Fig. 1

Truck Costs Now and Then

The two charts reproduced here prove that despite the war and current high prices, trucks are "cheaper" now than they

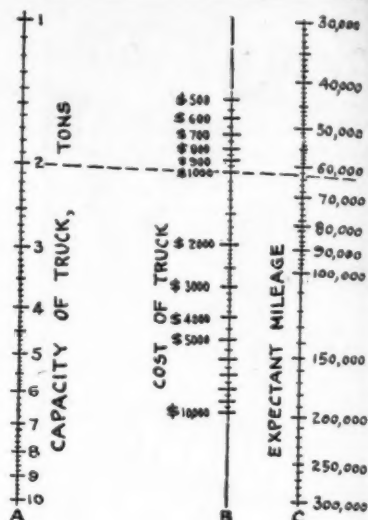
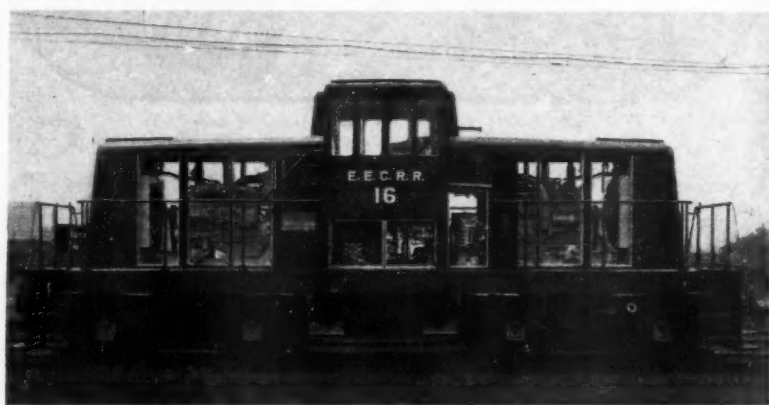


Fig. 2

were in 1917. Fig. 1, prepared and copyrighted by the writer in 1917, shows by the dotted line that a two ton truck (Col. A) costing \$4,000 (Col. B) had an expectant mileage of about 63,000 miles (Col. C).

Fig. 2 shows that two-ton trucks now expecting 63,000 miles cost only \$1,000. These figures may not be strictly accurate, owing to the war and shortages, but it is safe to say that the present truck purchaser gets more for his money than he did in 1917, and that trucks are really "cheaper" today than they were then.—W. F. S.



Lower Maintenance on Locomotives

A new locomotive equipped with super-charged diesel engine was announced recently by General Electric Co. The power actually delivered to the generators for traction is less than on older models, and this means that while power available has been increased, the percentage of available power used by the locomotive has been decreased. The new locomotive will be able to maintain a higher speed on the heavy pulls, while lower maintenance costs should result from the engines not being worked as hard.

While maximum tractive effort has not been changed, the continuous tractive effort ratings have been improved. This means that a specific tractive effort can be maintained for a longer period of time. Other improvements on the new model include clasp-type brakes.

to again handle less than barge load merchandise. It appears that both private and public barge lines are not interested in a losing proposition and that each wants the other to handle loss merchandise.

* * *

Gravel located five miles from projected Hungry Horse Dam in Montana will be hauled to site by means of 12 miles of conveyor belting. The contract, awarded to U. S. Rubber Co., calls in most cases for 36 in. belting. Plans call for completion of the conveyor system by mid-1949.

* * *

Domestic Transportation, a publication of the Department of Commerce, reports that trucks are increasing their share of total freight hauling. Not only has truck haulage increased for long distances but it has almost completely replaced all other means of transportation for short haul commodity movements. An interesting feature of truck transportation is the fact that the number of truck drivers is between three and four times greater than the total number of railroad employees.

Motor carrier freight transported in July was 10.6 percent over July, 1947, and the index stands at 222 (1938-1940 monthly average is 100). The biggest increase was in iron and steel and equal to 40.7 percent. The failure of the total index to show a larger increase was due to the fact that iron and steel shipments are only a small factor in freight carried, general freight being the dominant category.

Shipments of truck and bus casings during July were down 2.96 from June. Shipments for the first seven months of 1948 were down slightly from the same period last year on original equipment but dropped some 20 percent for replacement purposes. It is also noted that truck and bus tire inventories so far this year were moderately above last year, whereas passenger casings almost doubled, despite the decline in the latter from June to July.

* * *

Plans have been completed for the establishment of a Western Trucking Industry Insurance Advisory Committee to ease truck insurance problems in 11 western states. Ted V. Rodgers, well-known trucking man, presided over the planning session.

Objectives of the committee are to increase carrier-insurance cooperation, educate truckers with insurance requirements, educate the insurance carriers on operational practices and requirements and increase uniformity in methods and practices in the trucking industry. Several consulting committees will be appointed to carry out various phases of the program.

* * *

A scientific study of the cost per ton-mile of hauling loads of various sizes over modern or secondary roads is being projected by the Highway Research Board and several leading associations and governmental organizations. This will be the first step toward determining economic load limits with consideration of transportation needs and costs.

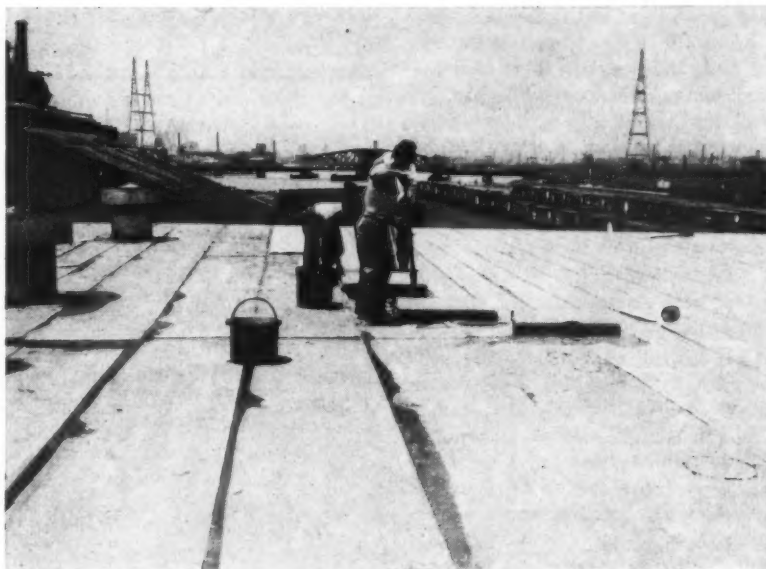
NYSWA Elects Officers

A discussion of current trends and developments in the warehousing industry highlighted the fall meeting of the New York State Warehousemen's Assn., held at Saranac Lake, N. Y., Sept. 20-23. Despite the fact that the convention was the first fall meeting ever held by NYSWA, more than 200 members and guests were in attendance. Entertainment features included sight-seeing tours and outings, a banquet and two cocktail parties; one of which was sponsored by the White Motor Co., and the other by NYSWA, with retiring president Earl S. King, King Storage Warehouse, Syracuse, and Mrs. King acting as hosts.

Topics discussed at the business sessions included the report of a membership survey on the current position of the warehousing industry in New York state; problems confronting long distance movers of household goods.

Officers were elected as follows: President, J. Barclay Potts, Manhattan Storage & Warehouse Co., New York City. General Vice President, Francis M. Gallagher, Marcy-Buck & Schuyler, Watertown, N. Y. Vice President (Merchandise Div.), George M. Clancy, George M. Clancy Co., Inc., Rochester, Vice President (Household Goods Div.), Harold T. Dwyer, Dwyer Storage Warehouse, New York City. Secretary-Treasurer, Edward J. Costich, B. G. Costich & Sons, Rochester.

Aluminum Roofing



ONE of the East's first applications of a new roofing material—Reynolds embossed aluminum built-up roofing—has just been completed on one of the buildings of the Tompkins Tidewater Terminal Co., Kearney, N. J.

Approximately 32,000 sq. ft. of .004 in. thick embossed aluminum was used. The new material is commercially pure aluminum, annealed and dead-soft embossed. It comes in rolls 36 in. wide and 360 ft. long, enough to cover about 1,000 sq. ft. of area.

The steps taken in re-roofing the Tompkins Tidewater Terminal building were these: two inches of Celotex were laid; a layer of 30 lb. asphalt felt was applied; then came a layer of hot asphalt into which the first ply of aluminum was mopped; a second mopping of hot asphalt into which the final ply of aluminum was broomed was the final step. The illustration shows the workmen mopping down the asphalt and applying the aluminum.

Most widely noted advantages of embossed aluminum built-up roofing are its permanence and performance. Proof against rust and highly resistant to corrosion, a single layer should last from 25 to 45 years, depending on the severity of the exposure, according to an estimate by the American Society for Testing Materials.

Day-by-day performance of the aluminum roofing is characterized by its intrinsic qualities. Because aluminum reflects up to 95 percent of all radiant heat such as that given off by the sun, summer temperatures immediately under the roof have been reduced by as much as 15 deg. The embossed finish of the aluminum reduces light reflection without affecting its insulation qualities.

Another advantage is the reduction of maintenance expense. By protecting the underlayers of felt and asphalt, the aluminum prevents the drying out, cracking, peeling and blistering of bituminous materials.

L. C. L.

(Continued from Page 23)

visits by a number of railroad officials, and the development of better mutual understandings of the problems involved in the transportation service which was questioned.

The Sears L.c.l. improvement program has included making all possible use of railroad "package cars." But it is the Sears opinion that the existing rail package car schedules—or even a more generous supply by the railroads of the mechanically "improved" package cars that have been talked about—is not the most important one of the possible steps that might be taken to improve the present congestion in the L.c.l. rail shipping. In fact, the Sears reports indicate that some of the present going rail package-car services have been showing very poor on-time records, and some of these records have been progressively growing worse. This is doubtless chiefly because these particular routings are either out from or through intensely congested rail terminals.

Trailer flat car service also is aiding in the improvement of L.c.l. handlings; though in some cases these services have become limited through being restricted to trailers of common-carrier motor truck lines, as contrasted with contract or company-owned motor vehicles.

Also, there is promise of some L.c.l. relief from the use of shipping containers. One example is experiments by a Chicago railroad system. Sears, Roebuck & Co. also is experimenting in the use of containers for export shipping from New Orleans to two of their new stores to be opened respectively in Rio De Janeiro and Sao Paulo, Brazil. This is an aluminum container with capacity of 350 cu. ft. which may be loaded up to 20,000 lb. Expected special advantages are lessened pilferage and reduced handling loss and damage.

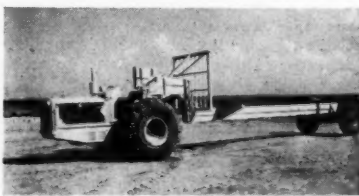
Sears also is giving attention to the "sentinel service" established by one rail system, whereby the shipper is kept continuously informed in detail as to the successive "placements" of an assigned freight car, through a movement

Chicago Packaging Show

SCIENTIFIC materials handling and product protection as a means to more efficient and economical distribution was the keynote of the Third Industrial Packaging and Materials Handling Show, held Oct. 5-7, in the Hotel Sherman, Chicago. The exhibits, which numbered more than 70, exemplified current trends and developments in packaging, materials handling and in associated activities. Forum discussions were concurrently held by the packaging and materials handling sections, during the course of which many notable addresses were made. A feature of the show was the packaging and materials handling short course conducted jointly by the Industrial Packaging Engineers Assn., which sponsored the exposition, and by the University of Illinois. The course, which opened October 4, was attended by more than 650 representatives of industry and, in addition, by many persons drawn from the armed services and from various government agencies.

chart supplemented by followup reports on exact hours of departure and arrival.

The Sears L.c.l. division also is directly concerned with the loss and damage experience to company merchandise and through the company packing engineers they follow up all unfavorable L&D reports. These reports are made available through the claim division, which maintains an up-to-date file indicating the number of damage claims encountered for each commodity. Items which are noted to be extremely susceptible to damage are thoroughly investigated, and if necessary the pack-



The Tournahauler is a 45,000 G. V. W. vehicle designed to haul heavy loads through mire, sand and not only make sharp turns on heavy going but also travel on highways. Formerly, such versatility was possible with the use of auxiliary equipment. Two factors enabling the Tournahauler to demonstrate such versatility are electric power steer (which permits a full 90 degree turn of the Tournapull in relation to the rig) and the elimination of exposed springs and other assemblies under the frame that would drag when the hauler traveled through soft ground.

ing engineers develop new packing to counteract this condition. Sears has found that there is a close tie-in between poor rail handling service and shipping damage. The excessive handlings to which shipments are subjected at the most congested terminals not only slow up the movement of the freight, but at the same time the merchandise is subjected to increased damage opportunities. Thus, the company records show that if transit time can be improved by selective routings which require fewer transfers and lessened handling, this improvement at the same time will automatically lessen damage claims.

As related to the general control of damage to L.c.l. merchandise, one of the chief criticisms by Sears against the railroads is that they often have not been sufficiently strict in the refusal of poor packaging, probably largely due to the fact that some agents at freight houses have not been informed as to what is "acceptable packaging." It has been the Sears experience that there is room for appreciable improvement in the handling accorded by the carriers to L.c.l. shipments. Sears is working closely with the carriers for such improvements, and they feel that real results are being achieved.

In summary, the one change in methods that the Sears L.c.l. division believes most essential, for the general improvement of L.c.l. shipping, is that shippers and railroads should give more attention to improved traffic routings, to keep an increasing percentage of package shipments away from the congested railroad terminals. They believe that 90 percent of all present L.c.l. shipping troubles are in the congested terminals. More and more L.c.l. shipping should be concentrated in full cars that can be shifted on to other breakbulk points than the congested terminals. Also, the rail rate structure for such shipping should be so modified as to encourage individual shippers to coordinate and assemble their merchandise shipping, and thus minimize the number of physical handlings given shipments at overtaxed and congested freight houses and at transfer points.

PATTERN FOR INDUSTRY

(Continued from Page 29)

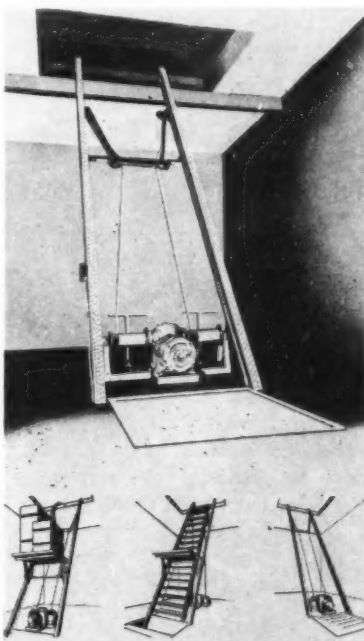
pallets by hand. Just prior to this, they were rolled over a short conveyor which had a glue applicator in the center. This applicator consisted of a glue receptacle, maintained at about 150 degrees by thermostatic control, an electrical heat arrangement and a micrometer adjustment to control the amount of glue deposited on the boxes. As the package passed along and over two wheels these last drew glue onto the undersides of the packages. In the use of this method care must be exercised, the demonstrator pointed out, to prevent conveyor wheels accumulating hardened glue, as this militates against good adhesion. The system is still under test and it is thought that difficulties will be overcome. The main advantage of glued unit loads is the fact that they eliminate strapping and the labor time required for this.

Another aspect of materials handling besides the composition of the load was that of testing the conveying device itself. Inside the exhibition building, photos showed the testing of fork lift truck tires, multiple drum lifting, etc. The skid tests showed that there is considerable variation in the non-skid properties of tires, and that this depended on the amount of wear and tear suffered by tires in actual use. The multiple drum lifter, also shown, was recommended with reservations, though one oil company was using it under specific conditions and finding it very useful. More spectacular than this device, which can transport four drums simultaneously, was the lumber carrier, shown elsewhere on these pages. The carrier, which is really a truck on stilts, is able to straddle a palletized load of drums and lift the load by a unique gripping device. The lifting is accomplished by two elevating side brackets which engage flanges on a special type pallet. It was pointed out that straddle trucks of the type demonstrated can greatly facilitate the handling of oil, chemical and similar commodities.

One warehouse demonstrated

palletized load tiering. Loads weighing one-half ton were stacked four units high. The floor on which they rested had a strength of 1,000 lb. per sq. ft., leaving a considerable safety margin. Aisles were 14 ft. wide on the long aisles and 12 ft. across, to allow sufficient space for trucks and dolly trains. An employee estimated that some 25 per cent of floor space was not utilized for commodities. Roof height was excessive in one warehouse for four-tier loads, and belief was expressed that a height from floor of about 25 ft. would be adequate.

Some attention has been given by the Navy to non-palletized strapped loads. One problem with standard forks rather than special accessories were used was deter-



Stair-Conveyor-Elevator

A new conveyor-stairway, called the Stairveyor, sets a fast and efficient pace in the flow of materials between floor levels. Manufactured by Moto Flow Co., Bay City, Mich., it features simple installation, increased operational ease, security at all times and adaptability to a wide range of uses, with push button control at every floor level eliminating a trained operator. It is fully adjustable for width, length and pitch of stairway, and transforms waste space into easily accessible profit building storage room.

mining the load's center of gravity and providing an entrance for the forks at that point. When openings were left in the unit load, the cubic capacity of the unit was reduced by 10 per cent, in some cases. Lastly, the non-palletized load, when dependent on straps, takes about 10 min. longer to handle than a pallet load minus straps.

The Navy's Test and Development Department has been testing various shapes and sizes of pallets and has devised specification for a new Navy standard pallet. Features covered include the following:

a. Size 40 by 48 in. to permit movement by both railway freight car and trailer truck;

b. Four-way fork entry;

c. Sixty-to ninety lb. weight;

d. Three and five-eighth in. deck clearance for truck forks;

e. Bottom deck area to be 60 per cent of top-deck area;

f. Provision for handling by hand pallet truck;

g. Capability of being knocked down in order to conserve shipping space;

h. Reparability by replacement of component parts;

i. Capability to withstand static load of six tons and ability to perform satisfactorily under naval handling operations;

j. Overhang of 3.5 in. on 48 in. dimensions for application of stevedoring slings, forming what is known as a wing-type pallet;

k. Be moisture resistant to the extent that dampness will not seriously affect the strengthened life of the pallet;

l. Permit strapping and/or gluing to the degree required in unit loading;

m. Be made from raw materials readily available in time of war;

n. Price to be in balance with expected life of the pallet.

The entire show was conducted with high efficiency and consideration for the visitors, and with a desire to offer as much information on materials handling and packaging as was consistent with national security.

THE TRAFFIC MANAGER

(Continued from Page 19)

packages are shown in the accompanying illustration. This package, a 55-gallon, stainless steel drum, is sterilized without difficulty, filled quickly, and transported without loss of contents. Although the rubber treads used to protect costly floor surfaces add somewhat to the weight, the tare weight of this container is less than seven percent of the gross weight. Also shown is a stack of cartons, each holding four one-gallon containers. This package, as shipped, weighs 20 percent less than the one previously used and, equally important, occupies 33 $\frac{1}{3}$ percent less space. Economy of storage and transportation of this package to some extent offsets its additional cost. Its ability to withstand transportation without damage further adds to its value.

The shipping department depends on the traffic manager for guidance and instruction in the interest of efficiency and economy of transportation. The shipping department should be relieved, as much as possible, of paper work and details of office routine. Bills of lading should be prepared in the billing office, and split delivery, pool shipment and stop-off-for-partial-unloading cars should be attended to by the traffic department. In this way, the shipping clerk can devote his time to overseeing (1) preparation of orders for shipment, (2) marking of packages, (3) scheduling of trucks, (4) loading of cars and trucks and (5) recording performance of equipment and men. A simple report each day to the traffic manager, showing performance of trucks operated, time spent in loading and unloading, time in and time out on each trip, and duties while away from plant, can pay big dividends in resultant corrections that will cut loss of time and money. The traffic manager can well afford to spend a few minutes several times each week on the loading and receiving platforms and in the shipping office. Average weight agreements should be arranged not only to save time in

plant operations, but also to prevent delay in transit resulting from weighing cars on track scales. Average demurrage agreements are helpful in allowing tolerance in loading and unloading cars and should be arranged where justified by the volume of carload traffic.

Payment of charges based on the lawful rates is an essential function of the traffic department. The traffic manager must see that merchandise is fully and properly described on bills of lading and shipping orders; that current rate information is available so that freight bills can be paid on the proper basis; that freight payments are mailed within the credit period; and that overcharge claims, when necessary, are filed



promptly and correctly. Rate discriminations and inequalities must be ferreted out and brought to the attention of carriers' traffic officials for correction. If the traffic manager fails to gain relief from such discriminations by negotiations with the carrier, it is his duty to prosecute the matter before the Interstate Commerce Commission or other governing bodies.

To better serve his employer, he must become familiar with the manner in which matters are brought before the ICC and with its rules of procedure. A knowledge of the Interstate Commerce Act, and of the transportation laws of the states in which his employer conducts business, is essential. The sales department must be informed of changes in rates and charges on the company's products and those of their competitors which have an effect on the competitive position or on the amount of ab-

sorption or freight allowances of the producers involved. Arrangements should be made so that all invoices on which freight charges or allowances are figured pass through the traffic department for approval prior to payment.

Claims for loss and damage must be prepared by the traffic department. These claims should be supported by the necessary documents so that they can be handled promptly and efficiently by the carrier and payment can be received without unnecessary delay. Every effort must be made to correct faulty handling by the carriers, in packing and loading operations, and during transit so that damage or loss can be held as low as possible. The cost of loss in transportation has reached a staggering amount. During the year 1947, claims paid by the railroads alone amounted to over 100 million dollars. Actual payments in the first six months of 1947 were \$56,000,020 as compared to \$42,035,665 during the same period in 1946. This amount of loss of the nation's production is serious, and the traffic manager should not take the problem lightly. He must expend every effort to correct the situation by helping to establish improved packing methods, and by working with the carriers to eliminate mishandling of merchandise.

At this time of short supply of all types of freight cars, the traffic manager must be aware of and work toward any improvement possible in the turn-around time of equipment. This means speeding the loading and unloading time, and reporting to the proper carrier official any failure to

(Continued on Page 55)

Why Waste Containers?

Manufacturers are aroused over the frequent storing of unused crates out of doors without protection against the elements. This tends to ruin containers and crates which should act as "silent salesmen" precisely as does the packaged product itself. Further, soggy crates lose strength, become warped and mildewed and often give rise to packaging problems. As Leonard C. Hintze of Chicago, representing shipping container manufacturers, stated the other day, "That's gold in them thar containers."

INGENUITY PAYS OFF

Continued from Page 31

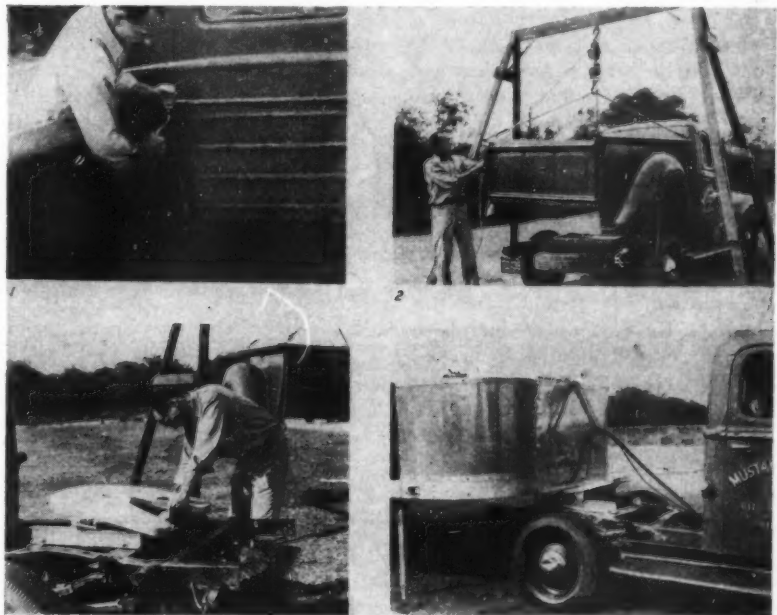
turing process calls for the cardboard covered cylinders to be transported on skids from the loading dock to the storage area by a standard low-lift. Once at the storage area, however, the fabric trucking process enters a second difficult phase. Lack of a more suitable type vehicle had made it necessary for U. S. Rubber to remove each roll from the skid by means of a two-man crew plus a fork truck and driver. Two of the men would ease the load onto the vehicle which would carry each individual cylinder over to a stock pile and drop it on top of the others. The material was injured repeatedly because at each "drop" the impact would crush ends or split corners. By modifying a standard truck, the company was again able to circumvent its difficulty.

The forks were removed from a Clark 6025 Stalwart (battery model) truck and replaced by a wider crosshead. Low-sweeping steel bars with knobs were welded on at each end, giving the storage department a materials handling device with two long steel arms. When a full skid was brought up from the unloading dock for storage, the driver of the "arm" truck would move up to the side of the load, place a foot-long steel pin in the center of each of the two bottom rolls, then swing around to the other side and repeat the process. With this done, he could approach the skid head-on until each steel arm was directly under the pins jutting out from the bottom cylinders. From there it was merely a matter of lifting the entire load off the skid, trucking it over to the storage pile and placing it in the desired spot. The versatility of the "arm" truck made it possible to select rolls singly or in a group of three and move them from skid to pile, or vice versa. Throughout the process, rayon was moved with such care that very little damage resulted. Besides that, only one man completed a job that previously had demanded three.

While awaiting removal from the storage area, rolls are re-stacked aboard skids in three-unit pyramids and then transported via elevator and low-lift to the Web Fabric Solution Machine. There a steel shell replaces the wooden one inside the roll and the rayon thread is unwound and run through a pale rubber solution which impregnates the material, giving it a slight elasticity. Now noticeably thicker, the rayon sheet next enters the "calendering" process. In this operation the damp sheets of rayon fabric are dried out on heated rollers before gliding between two separate sheets of rubber compound which are thereupon fused to it. Before leaving the calender machine, the newly fused rubber fabric is re-rolled with a cotton liner between its layers to separate tacky surfaces of rubber. At the cutter, the rubber fabric is unrolled and 24-inch sections are cropped off

at a 45-degree angle. These bias-cut pieces of rubber fabric are promptly spliced together in a long roll which is ultimately used to make tire plys.

Now, at the point where rubber fabric emerges from the calender machine, the problem was to move this fragile material without causing the tacky surfaces of the rubber layers to stick. Under the system formerly used, two men would hand-truck the load from calender machine to cutter. The weight of the upright roll pressed heavily against the lip of the hand truck, often fusing liner and rubber fabric. This damage generally occurred during transport where crew members were unable to detect it immediately. When the injured section showed up on the cutter, the machine had to be stopped and seven persons idled while the ruined piece was removed. Such a method involved a sizeable risk-factor in rubber fabric handling; besides, a two-man crew could move an average of only eight rolls per hour from calender to cutter. And even at that low



The Texas Sheet Metal's aluminum semi-trailer can haul up to 5 tons when attached to a pick-up truck or jeep. Converting for semi-trailer operation is simple. It consists of: 1. Removing the bolts in the bed of the truck. 2. Lifting the truck body with block and tackle. 3. Driving the truck under the body and fastening fifth wheel to the chassis with four bolts. (The front section of the semi-trailer, when not in use, is supported by a landing gear. The fifth wheel is then backed under the trailer and the brake and electric lines snapped on.) 4. Retracting the landing gear. The process can be reversed easily.

rate, an estimated 5% of the stock was severely damaged.

The fact that rolls today are being transported from calender to cutter without injury is a tribute to still another adapted fork-truck. On this one, the Detroit plant replaced the forks with a welded steel, chisel-shaped lifting bar and bolted to the top of the uprights a two-foot reinforced boom at the end of which was an automatic pin latch. To handle calendered rolls, the truck driver pulls up alongside, drops a steel pin in the center hole, then pivots his truck until the chisel and boom face the roll. A slow approach permits the steel pin atop the material to slip into the locking latch at the end of the boom. Since the steel bar projects in front of the vehicle, it engages the pin first and slowly tilts the roll back so that the chisel glides under the load barely touching rubber fabric. Once both chisel and pin latch have a secure grip on the roll, the trucker lifts the entire load off the floor and moves to the cutting machine where he deposits the load with minimum damage. According to the unofficial factory figures, this special fabric-handling "chisel" truck can move 12 to 20 rolls hourly using one man instead of two. Needless to say, this unique piece of machinery has long since proved its worth.

Examples such as these are typical of problems encountered in the internal transportation of rubber and rayon fabric. With a combination of wisdom and ingenuity, U. S. Rubber has been able to solve a few of them and simplify others. But the dozens that still remain serve as tangible incentives for the manufacturer to achieve more economical fabrication of rubber products.

SHOULD WE PACKAGE

(Continued from Page 38)

own filling and packaging machinery. Or he may send his product in bulk to a contract packaging firm which will fill, label and, if required, case the goods. A third choice is not to handle the bulk goods at all, but to contract with a "private label packer" in his field for his goods under his own label and brand name.

Contract or custom packaging offers a definite advantage to the manufacturer or packer who does not have sufficiently large volume to justify his own automatic machinery. By using the more elaborate facilities of a well-equipped packaging service, costs will be less and volume will be generally increased. Another type of packer who must fall back on contract packaging is the one with an extensive and varied line of products, as for example, cosmetics, drugs, or a wholesale or retail distributor with a house brand. The packaging services offer a wide variety in the types of packaging: dry products, liquids, powders, assemblies, pastes, canning, bottling, boxing, bagging, cellophane wraps, pliofilm, metal foil, heat sealing. Therefore, the house with an extensive line will find it advantageous to depend upon contract packaging. It is possible that such a firm will prefer to package leaders in their line and avoid setting up a packaging line on the smaller volume items which also go into their list.

Contract packaging also lends itself to the manufacturer who has considerable fluctuations in volume. It does not pay to have sufficient personnel and packaging equipment for the occasional high load,

yet few firms want to decline business they temporarily exceed their capacity to pack. Hence many firms reputed to do their own packaging entirely will from time to time call in a packaging service to help augment their production. Also, many plants are finding the cost of night shifts and overtime on week-ends excessive and are turning to contract packaging for any volume beyond their daily capacity. This greater cost for overtime production does not refer to wages and salaries alone, but to lack of adequate supervision, more frequent breakdowns of equipment and other stoppages, on shifts other than the normal operating day.

The disadvantages in leaning entirely upon a contract packer to handle one's production are apparent, at least for the larger manufacturer. Where steady, volume production is involved, the last fraction of a cent in reduction of cost which may be necessary competitively may be lost with outside packaging. Inside, controlled packaging is also more responsive to the sales chart. The contract packer may be depended upon to fulfill his promises as to delivery time but this is scarcely fixed in view of his commitments to other customers, whereas one's own packaging line is not subservient to this demand. Further, there may be changes in packaging requirements, special labelling, temporary promotional identification such as 1¢ sales, contests, premium offers and other circumstances requiring sudden changes in normal packaging procedure. The contract packer cannot be as elastic or as co-operative in coping with these deviations from the set pattern as when the packaging function is coordinated with others within a single management control.

As another choice from either inside or outside packaging of one's own goods, there has been mentioned the possibility of securing one's goods already packaged and branded from those manufacturers, packers or suppliers in every field who specialize in filling orders under the customer's label.

"Ribbing" a Box

By means of cleverly contrived preformed separation-supports, ordinary cardboard boxes may now be converted into safe containers for packing and shipping ampoules, fountain pens, perfume vials, drills, medical supplies and other items. Called Quick-Pak Protectors, these separation-supports, made of cardboard, and forming flutes or ribs, provide high protection because of their great support strength and are more economical than the usual methods. They eliminate the need for all dividers, partitions and pieces in assembly of boxes. Quick-Pak Protectors are secured in boxes by glueing and will hold any object from approximately 1/2 to 3/8 inch in diameter. Cardboard Service Co., Forest Park, Ill.

Only AIR EXPRESS gives you all these advantages

A combination you don't get
with other air-shipping methods

- 1.** Special pick-up and delivery at no extra cost. Your shipments are picked up promptly when you call; fast delivery to consignee's door.
- 2.** You get a receipt for every shipment, and delivery is proved by signature of consignee. One-carrier responsibility. Complete security.
- 3.** Assured protection, too—valuation coverage up to \$50 without extra charge; 10 cents for each additional \$100 or fraction thereof.

These advantages, plus 21 others, make Air Express the best and fastest way to ship. Your shipments go on every flight of the Scheduled Airlines—repair parts, equipment, finished items *keep moving* to where they're needed. Reach any U.S. point in hours. Phone local Air Express Division, Railway Express Agency, for fast shipping action. Specify "Air Express" on orders for quickest delivery.

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The principal advantage is that it permits a smaller operator to enter a competitive field and build a following with his own brand which he could not do if it was necessary to do his own packaging. And it permits a larger operator to round out his line by securing slower-moving items from a so-called private label supplier without interrupting his own production of the faster-moving lines. The disadvantages in securing one's own goods as well as packaging from outside sources are: (a) difficulty in maintaining uniformity of quality especially as changes are made from one supplier to another; (b) Not being a genuine primary source of goods, there is always danger of losing customers who discover that they too can secure private-label goods direct and save money; (c) identification legally required such as "Packed for" or "Distributed by" (instead of "manufactured by") on private label goods has come to be recognized by the buying public for just what it is. In this last named situation, since some private label goods are of lower quality, the house with a quality line must work that much harder to establish and maintain equal recognition with the national manufacturers in the same field.

Moving from the preparation of the selling unit to that of packing and crating for shipment, somewhat similar considerations as with packaging arise when weighing an outside service against one's own packing and shipping set-up. Also, there are some additional problems. By way of explanation, services which offer packing, boxing, crating, baling, etc., are a field apart from the packaging services such as filling, assembling, labeling, bottling, carton-sealing, etc. The packing and crating services are available for almost every product, many of them specializing in automotive equipment, machinery, china, furniture, textiles, metal sheets, plate and bars, art and bric-a-brac. Some services concentrate on the special problems of export shipping, some on domestic shipping and others handle both types. Many operate in conjunction with moving, storage and shipping firms; others are exclusively pack-

ing and crating organizations.

Obviously, when there is only occasional need for packing or crating, the shipper wisely selects a service best suited to his needs. Also, when the packing requirements are unfamiliar to a firm's shipping facility or the specifications are unusual, the shipper should not hesitate to lean upon a service with the necessary packing engineering skill. The shipping department not experienced in export shipping needs the assistance of an outside service when preparing goods for overseas.

An adequate packing and crating department, either in conjunction with the shipping and traffic departments, or as a separate creative design department writing specifications for production and purchasing departments, becomes a "must" in large manufacturing and distributing enterprises. Here,

the use of outside services becomes unwieldy, more costly and can delay the flow of outgoing shipments.

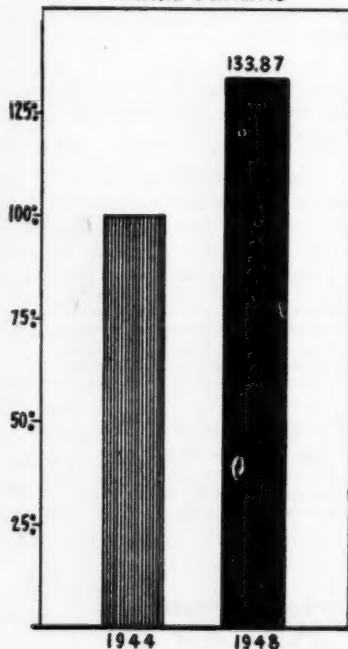
A final choice between internal and external packing services arises in connection with the procurement of wooden boxes and crates, once there is established the policy of packing and crating within the plant. Here again, sizeable volume is a desideratum before it becomes practical to have regularly employed boxmakers and a box-assembling equipment. Otherwise the expenses of labor and materials, plus the hidden expense for spacious quarters, the burden on the purchasing department to find and maintain required quantities of lumber, more extensive insurance against fire and personal liability, maintenance of blower system for removal of wood dust, etc., all tend to make own manufacture of packing boxes uneconomic.

The supply of packing cases from an outside service may be said to be almost the rule except for industries of major proportions. The supplier finds it pays to have standard sizes made up and ahead for his regular customers and coordinate deliveries so that the packing room always has sufficient quantities on hand to maintain production. All factors considered, it requires an overwhelming and steady need before the costs for an internal set-up fall below the quotations from the manufacturers of wooden boxes.

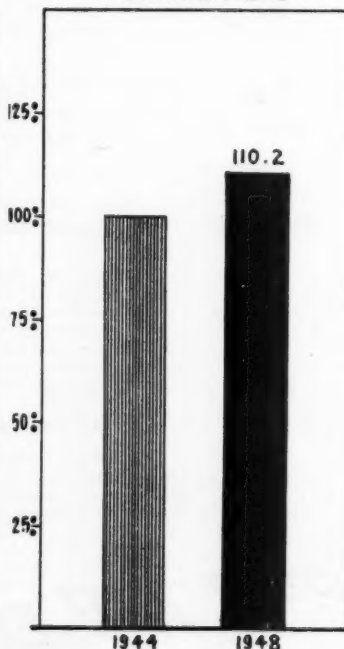
A box-making facility as an adjunct to an internal packing department becomes advantageous when there is great fluctuation in the size requirements, when special considerations for internal bracing must be prepared almost to order and other situations where stock size boxes will not answer. Quite often box-making within a plant serves other functions such as the preparation of pallets, trays, platforms and special bins; the cutting of lumber for the shoring and bracing of loads within conveyances and turns out special chocks for securing the wheels of vehicles.

In packaging and packing there will always be border-line cases where the factors seem to be equally in favor of outside or contract service as compared to handling within the plant. It is always a safe conclusion to lean on competent outside services, when they are available, until such time as the considerations are overwhelmingly in favor of assuming those responsibilities as a part of internal operational procedures.

USERS OF ELECTRIC TRUCKS
E. I. T. A. STATISTICS



ELECTRIC TRUCKS IN USE
E. I. T. A. STATISTICS



Battery Truck Use Soars

A study just completed by EITA shows that the number of battery-powered industrial trucks in use today is slightly more than 10 percent above the 1944 total—despite the fact that thousands of old units had to be kept in service during the war years, long after they would normally have been retired, followed by a high rate of retirement when the war's end came.

This, EITA observers say, shows that record-breaking post-war sales have managed to replace the many trucks since retired, and gained a substantial net increase as well.

Still another comparison revealed that the number of users of electric trucks has jumped by one-third since 1944. This, it is pointed out, refutes any idea that this is a static industry. New customers have learned to apply new methods and tools to new problems.

Guide Map

The Associated Warehouses, Inc. has published a warehouse guide and railroad map for the convenience of those using its services. The map, bordered with the names of member companies and their addresses, measures 11 by 15 inches and shows the location of all members over the entire U. S. and also shows the routes of main railroad connections between those points and other cities of importance.

TRAFFIC MANAGER

(Continued from Page 50)

promptly switch empty cars.

Routing of freight is a duty of the traffic manager that should receive sufficient attention to assure prompt and efficient transportation at reasonable charges and an equitable division between carriers of the available traffic.

The traffic department is charged with the duty of handling passenger reservations and other matters pertaining to travel of company representatives. A routine should be set up so that this phase of the traffic work will not unduly occupy time that should be devoted to other traffic matters.

As it is important to the traffic manager to keep abreast of trends and developments in transportation matters, he should devote some time to traffic clubs, shipper associations and advisory committee work. As in all other endeavors, it is often possible to accomplish much more good by working with others having the same interests than by individual effort. Usually the cost of membership in these associations is small, and frequently is repaid many times over through information gained from the associations' activities or by united action on a problem.

The traffic department, while not a revenue producer, is the guardian of a large sum of money. The traffic manager can take pride in seeing that this money is spent to the best advantage of his company, without waste. At the same time he can ease the job of production and distribution by the use of superior service at justifiable higher costs where necessary.

Records of transportation costs and accomplishments of the traffic department should be compiled and kept in such manner that they can be reported to management as they are required. A traffic department functioning along these lines can be a great asset to the industry and a source of satisfaction to its traffic manager.

MATERIAL HANDLING *News*

CLARK

a **BIGGER**
exhibit
of **BETTER**
machines
TO DO MORE WORK
AT LOWER COST

*-the Third
National
Materials
Handling
Exposition*

The 1949 Exposition will be held in Philadelphia January 10 through 14 and will constitute a broad view and preview of "industrial history in the making." It will be the most convincing demonstration of all time that the Science of Materials Handling is eternally new—that it is a never-ending process of evolving new and better methods and equipment to the end that our National economy can shake off the shackles of old, inefficient and time-consuming practices which have become prohibitively costly both in human energy and in dollars.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS



INDUSTRIAL TRUCK DIV., CLARK EQUIPMENT COMPANY BATTLE CREEK 11, MICH.
REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

CHARTING

(Continued from Page 36)

as sheet steel, bar stock, tubing and similar items were being unloaded from carriers and placed in storage by overhead crane or manual means at the time the Emerson-Electric plant was visited in the early months of 1948, a method had been developed which called for utilization of battery-powered truck equipment to take over this handling. The plans called for revision of the receiving department layout to fit in with the projected changes in handling methods.

The fleet of trucks used at the plant consists of two highlift platform trucks, each of 4,000-lb. capacity; four fork trucks, each also of 4,000-lb. capacity; a pallet truck, and a crane truck, the latter used by the maintenance department and in set-up work. Two additional fork trucks are on order. These will have a tiering lift of over 10 feet, compared with the 78-inch lift of the fork trucks already in use. The platform trucks, used to handle and tier skid-loads, have a lift of 63 inches. The fork trucks handle both skids and pallets.

Five original trucks, installed in 1942, are still in daily use. Two fork trucks are in use 16 hours a day, the others being used only a single shift. The preventive maintenance program followed at the plant calls for weekly inspection, greasing and check-up of the trucks. Overhead hoists are used to change batteries at a central station. Fifteen batteries are provided for the trucks. The time for a battery change usually takes five minutes or less. A special maintenance man is assigned to service the truck equipment.

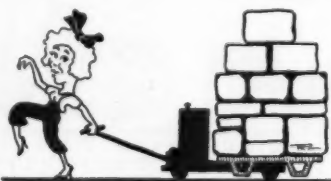
Both two-way and four-way double-faced pallets are used, both in the plant, and in exchange with suppliers and customers. Emerson-Electric has requested that, insofar as possible, all incoming supplies be shipped in unit loads, principally on pallets, while a number of Emerson's customers also have requested similar arrangements for shipment of goods to them.

from New York to Dallas, and not reloaded at St. Louis, as formerly. This change picks up three days of transit time and reduces cost about 15 per cent.

More recently, the company also set up its own consolidation using motor trucks, which gives platform delivery to St. Louis, where the plant happens to be off track. This service began with a truck load every other day from Chicago, giving next morning store-door delivery in St. Louis. In addition to the time saving, this new service also has provided considerable cost saving under I.e.l. rail rates.

The company's general shipping directions state: "On all shipments weighing 5,000 lb. or more, contact the general traffic department for specific routing instructions." Somewhat the same procedure is followed by each house. As purchase orders clear through the house traffic departments, the general traffic department is notified in respect to quantities that will move. The vendor is then notified, giving him specific instructions as to consolidation and forwarding. Chicago, St. Louis, Dallas, Minneapolis and San Francisco merchandise is consolidated into carloads or truckloads for movement into Chicago or St. Louis, where it is re-forwarded in the company consolidated cars.

The possible savings from such consolidations may be illustrated by a recent happening. A new source had been planning to help a small volume of production every day in order to obviate the 12-day delay which would result should all shipments be delayed until production was completed. However, investigation showed that the I.e.l. service from this plant to Chicago averaged about 17 days, as con-



REDUCING COSTS

(Continued from Page 42)

trusted with three days for the consolidated truck load transit time. Thus by holding, consolidating and forwarding as a truck load, two days transit time was gained for the first part of the shipment; and also a total reduction of several hundred dollars in transportation cost.

Efforts are being made to have "standard freight terms" understood by all company departments concerned with tariff rates, and also by the vendors. The selling price of the vendor naturally is based on making a satisfactory profit after paying transportation cost. Hence any economies that the traffic department can plan that will reduce this charge should accrue to the company and also may greatly broaden the sales possibility of the goods affected.

Another field of possible tariff savings is through the thousands of peculiarities in some of the freight rate structures. This has lead to the principle that if it is found that prices are "not competitive," investigation follows on the chance that a freight rate is the deciding factor. For example, a 24,000-lb. car of aluminum shipped from Chicago to Dallas will have a transportation charge of \$624. But if cars contain cans of corn, packages of corn flakes, bottles of catsup, bars of soap, mop sticks, baking powder or rolls toilet paper, the charges will be only \$374. Of course, behind each such tariff peculiarity there is always a reason, which may not be apparent to the uninitiated.

Some industrial management is under the impression that the ICC passes on all rates and sees to it that every community and every industry is protected against possible discrimination and prejudice. The ICC does provide remedies, but it is not godfather to everybody. Carriers and shippers arrive at a rate structure through conferences in tariff bureaus. These rates are filed with the commission, and are subject to review only upon appeal.

CARRIER COOPERATION

(Continued from Page 35)

unloading enroute for feed, water and rest, and the livestock arrive in Los Angeles stockyards in better condition and with less loss of weight in transit. Moreover, cattlemen are less subject to market fluctuations because of the shorter time lapse between the loading of cattle and their arrival at the market. A former stop at Las Vegas, where under old schedules cattle trains stopped for feed, water, and rest, has been eliminated.

Our agricultural bureau works closely with the farmer. This organization prepares and issues without cost instruction booklets on pertinent agricultural subjects. One that is attracting wide attention is on onion growing, another is on irrigation. Others have been written on dairying and similar subjects. This type of cooperation results in bigger crops to the farmer and more freight to the railroad.

Motion pictures are made available and are shown to farm groups. Of particular interest was a film called "Along the Milky Way," which covers the dairying business. Still another gives the latest information on potato growing and harvesting. In the cutting room now are two additional films, one on irrigation and the other on poultry raising. Most of these films are in color and the story is told by experienced narrators, making the films entertaining as well as instructive.

The young farmer of tomorrow is also remembered. Founded some years ago by the late Carl R. Gray, president of Union Pacific, the Carl Raymond Gray Agricultural Awards, sponsored by Union Pacific, are given to youngsters for outstanding agricultural accomplishments. Totalling almost 200, these awards go to boys and girls in the 11 western states served by us. Since the inauguration of the program, more than 5,000 youngsters have received awards. Three types are available to the winners who thus may elect to take the type of scholarship best suited to

(Continued on Page 59)

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Here is a completely unique development in the solid tire field—the U. S. Innacush Tire. Its softer inner cushioning cuts vehicle maintenance costs—lessens driver fatigue—reduces breakage. Yet, combined with the tough, wear-resisting outer tread, it provides *solid-tire* carrying capacity and long life. You'll want the Innacush on your powered industrial trucks.

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SO YOU'RE FULLY INSURED!

Misconceptions by the insured of their responsibilities under co-insurance have led to heavy loss on damage claims. . . Particularly in a period of rising prices, the insured must carefully evaluate property values not only to comply with co-insurance provisions but also to facilitate adjustments in case of losses by fire or other cause.

By H. E. BROTHERHOOD American Appraisal Co., Milwaukee

THE objective of insurance is indemnification in the event of a loss by fire or other casualty. The management of the property in the interest of its owners involves an insurance program calculated to perpetuate the existence of the property or its equivalent for the functions of the business. If those entrusted with the management of the property fail to carry proper insurance coverage or provide the necessary data for proving a loss, the replacement of property that may be destroyed may require outside financing or drawing on reserves.

What type of inventory is required to discharge the obligation of the insured under the terms of the contract? Some inventory is better than no inventory, and obviously a good inventory is better than a poor one. A good inventory is one that satisfactorily enumerates all items making up the property so they can be properly visualized and verified by the adjuster. A good inventory is also one that is

in sufficient detail to permit necessary computations in connection with partial destruction. For instance, a portion of a wall, roof, floor, or partition may have been damaged, while the balance remains intact. It will be necessary to have detailed information so that computations may be made quantitatively for the respective portions.

Assuming that a proper inventory of the property had been prepared, the next consideration is conformance to the standard fire insurance contract as far as the term "actual cash value" is concerned. Actual cash value as specified in the standard fire insurance policy of your state, and even without the specification about proper depreciation as in the past, means depreciating the cost of reproduction and required clarification in view of its varied treatment in various fields. For accounting and tax purposes, it is handled as an annual deduction through some accepted method, such as a straight

line, sinking fund, diminishing balance, etc. However, for insurance purposes the extent of depreciation is measured by the condition of a property and therefore takes into consideration the offsetting effect of expenditures for repairs and maintenance as affecting remaining life and useful value.

After an appraisal is completed, several elements operate to change the values applicable for insurance coverage purposes. These consist generally of additions or deductions of property items, changes in market prices and the accruing of depreciation. Thus it becomes important to have almost continuous knowledge of the changing value of properties insured so that coverage may be adjusted accordingly.

This is important when co-insurance is involved. Before its invention and general adoption by the insurance industry, property owners were inclined to estimate

(Continued on Page 64)



CARRIER COOPERATION

(Continued from Page 57)

their family situation. One is a four-year course in agriculture, another a two-year course, and the third a winter short course. The winners are reimbursed for travel from home to the agricultural college, and the only condition imposed is that the students must attend a college within their own state. There is keen competition for these awards throughout the west and many a young farmer of today owes his knowledge of agriculture, at least in part, to the winning of a Gray scholarship.

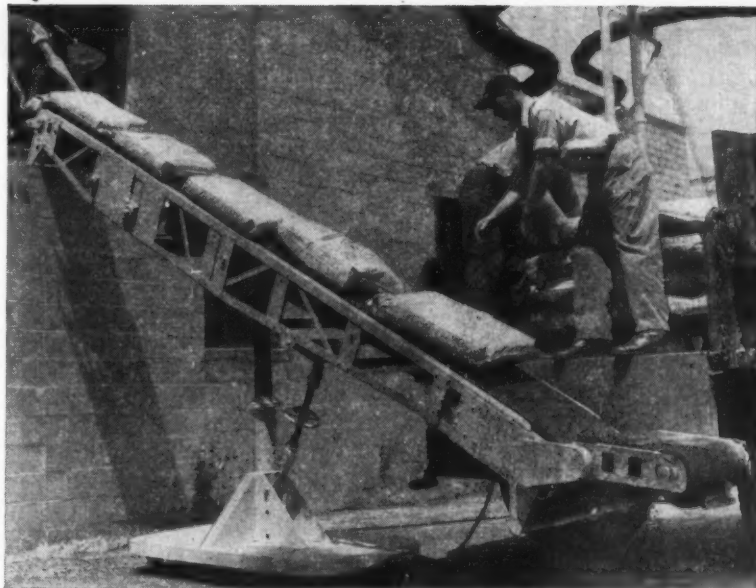
Another successful project was the establishment of a bureau to advise shippers on proper packaging. Heading this bureau is Warren R. White, container engineer of 20 years' experience, who came to Union Pacific directly from the navy where he served as a container and packaging expert, designing and redesigning containers for use in transporting supplies to the war zones. Under White's direction, whenever unusually heavy freight claims are made, experts investigate and analyze the type of packaging used. When necessary, they proceed to the shipper's factory and advise on the proper method to reduce damage. Generally a flaw is uncovered which is easily rectified.

For example, a certain type of heater shipped over the railroad turned up at its destination in a damaged condition more frequently than Mr. White thought was reasonable. Investigation disclosed that the trouble was caused by improperly designed crates. He made suggestions for improvement of the crate design and subsequent shipments arrived without damage.

Many similar cases have been successfully handled by White's department, with the resultant saving of thousands of dollars in claims and, what is more important, the building up of an inestimable amount of good will among shippers through damage-free passage of their goods.

Growers of perishables find that

(Continued on Page 71)

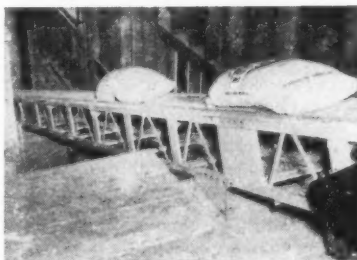


**"... keeps costs down ... frees men
for other work ... speeds handling ..."
say FARQUHAR CONVEYOR users**

SATISFIED users report remarkable savings after they have "Conveyorized" their handling operations with Farquhar. Here are just a few examples:

At a New York pier, nine men formerly were needed to unload fresh vegetables. With Farquhar Freight Conveyors on the job, seven of the nine were freed for other work ... handling costs were cut 50% ... delivery speed went up 100%.

A large paper mill installed a series of eight Model 346 Farquhar Conveyors at a cost of \$15,000 to speed up handling of coal from cars to pulverizing plant ... and now saves between \$25,000 and \$30,000 yearly on trucking charges alone.



CUTS MAN-HOURS FROM 32 TO 4 with Model 431 Farquhar Freight Conveyor (54 feet long, 18 in. belt) unloading cars in hay, grain and feed warehouse. Operation that previously took 4 men one day, now takes one man 1/2 day, with Farquhar Conveyor help.

A merchant reports his Farquhar Freight Conveyor delivers crates faster from trucks to a second floor cleaning room at half the cost of an elevator—and handles twice as many crates.

Hundreds of similar stories from laundries, food processors, grain and feed mills, chemical and paper plants, contractors, warehouses, echo more man-hours saved ... handling speeded up ... over-all costs reduced with Farquhar Conveyors.

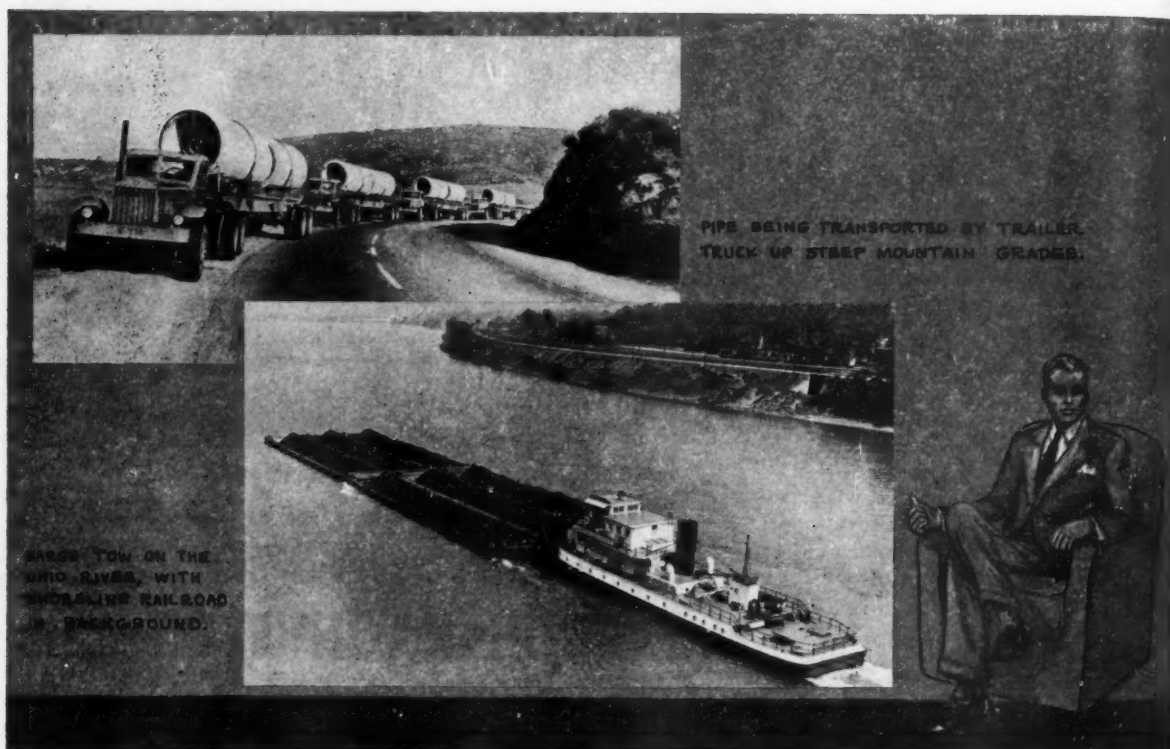
Whether you stack, pile, load, unload, or move materials from floor to floor ... whether it's bags, bales, boxes, cartons, bundles, any kind of packaged or bulk materials—Farquhar has the right materials handling conveyor to do your job faster, better, cheaper. Tell us your handling problem; we'll give you the information you need.

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MATERIALS HANDLING
CONVEYORS

HYDRAULIC PRESSES • FARM EQUIPMENT • FOOD PROCESSING AND SPECIAL MACHINERY

COMPETITIVE TRANSPORTATION



PIPE BEING TRANSPORTED BY TRAILER TRUCK UP STEEP MOUNTAIN GRADES.

BARGE TOW ON THE MISSISSIPPI RIVER, WITH SHORELINE RAILROAD IN BACKGROUND.

Congress is furthering the development of a National Transportation Policy to functionally integrate all basic types of carriers, to maintain an equitable rate basis for each, to speed the movement of commodities and to sustain competition both between and within all forms of transportation. . . . Jack McCormack, free lance traffic manager, discusses the advantages of a national transportation policy.

By HENRY G. ELWELL

Traffic Consultant

“WHAT is the scope of the regulatory power of Congress in connection with the Interstate Commerce Commission, especially as applied to intrastate matters?” asked Tom Dunlap, sales manager of the Excelsior Mfg. Co., as he discussed the subject of the national transportation policy with Jack McCormack, free lance traffic manager. They were seated in a secluded corner of the traffic club rooms.

“Quite broad,” McCormack re-

(Author's Note: Names of persons and companies are fictitious.)

plied. “The commerce power extends to those activities intrastate, which so affect interstate commerce or the exertion of the power of Congress over it, as to make regulation of them appropriate means to the attainment of a legitimate end, the effective execution of the granted power to regulate interstate commerce.¹ It is the effect upon the interstate commerce or its regulation, regardless of the particular form which the competition may take, which is the test of Federal power.”

“But,” Dunlap argued, “that

implies the right to interfere with the police power of the several states.”

“Perhaps,” conceded McCormack. “Notwithstanding your idea, within the field of interstate commerce Congress possesses a police power to promote the general welfare akin to that of the states in the realm of their domestic affairs.²”

“I still don't understand by what right Congress can meddle with state matters,” Dunlap remarked.

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AMERICAN SOCIETY

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eral knowledge. 3. A body of persons qualified by study, training and experience to practice their profession and to assist others in learning it. 4. A number of persons who aspire to attain proficiency in the profession by study, training and experience, and willing to demonstrate their qualifications by fair and objective tests and examinations. 5. A group of practitioners who are willing and eager to exchange their knowledge and the results of their experience with each other, and to assist those who are seeking to qualify themselves to enter and advance in the profession. 6. A high standard of ethical conduct; and 7. A realistic spirit of devotion to the public service.³

Traffic Management as a Profession

It is generally recognized that the field of transportation and traffic management meets all of

³Report, Committee on Professionalization, Associated Traffic Clubs of America, 1933.

these criteria of professional status:

1. No one seriously denies that there is a substantial body of technical data necessary to be mastered by one who aspires to do respectable work in transportation and traffic management.

2. The materials for the study of transportation and traffic management are becoming better organized and presented for study as a result of the work of transportation specialists, traffic managers, lawyers, economists, governmental departments, teachers and professors, publishers and editors, especially in the past quarter century.

3. Transportation men, traffic managers, lawyers, and teachers in informal educational groups, traffic club study groups, classes in schools, colleges, and universities, and extension educa-

tional institutions of various kinds throughout the United States, are assisting those who seek additional training in this field. Those who have been working in this field for a number of years are encouraged at the number of teachers who are interested in sharing their technical knowledge and experience, and in the increasing qualifications of those who are engaged in the work. Progress is being made, but there is still much to be done.

4. The number of men and women interested in learning how and where to obtain technical training and further opportunities for study in transportation and traffic management is large and increasing.

5. The transportation and traffic practitioners who are the acknowledged leaders in the field are generous in the exchange of "know-how" with each other and are eager to assist those who aspire to

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CASTERS

make progress in the field. This attitude is shown in the establishment and growth of technical associations in transportation and traffic management. It is evidenced in the interest in development of educational programs in traffic clubs, educational institutions, and the American Society of Traffic and Transportation. It is indicated by the increased reading of technical and trade journals. It is shown in the increased study of fields related to transportation and traffic management, such as marketing, economics, and government, and the study of decisions of the Interstate Commerce Commission and the United States Supreme Court.

6. The ethical standards in transportation and traffic management are high and they are improving. This is evidenced by the growing cooperation of shippers and carriers. It is demonstrated by the formulation of codes

and ethics, such as the Canons of Ethics of Practitioners before the Interstate Commerce Commission.

7. The spirit of public service is evident to anyone who is brought into close contact with transportation and traffic men. They, like any sensible human being, are interested in earning good incomes, but few look upon their jobs as only a means of earning salaries or fees. They consider the work that they are doing as constructive effort to keep going and improve the national economy and welfare. The cooperation of shippers in assisting carriers in spreading an inadequate freight car supply as widely as possible is but one conspicuous instance of this spirit.

Objectives of the ASTT

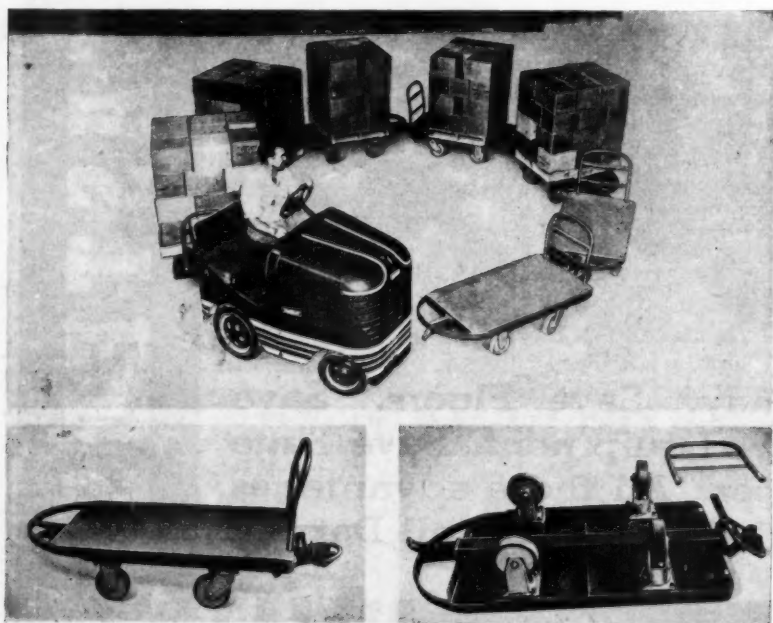
The American Society of Traffic and Transportation is a non-profit corporation. Its object and purposes are to establish standards of knowledge, technical training, ex-

perience, conduct, and ethics and to encourage the attainment of high standards of education and technical training requisite to the proper performance of the various functions of transportation. These objects and purposes are proposed to be accomplished by the composition and publication of outlines and syllabi of materials for study and reference materials. It is not an educational or publishing organization. The Society proposes to assist educational institutions or other organizations conducting or developing courses of study in transportation and traffic. It will conduct examinations to test the attainment of standards of membership in the Society at places designated by the Society.

Members are of two types: Founders, those who are recognized to have achieved distinguished attainments in transportation and traffic management; and Members, who have demonstrated their qualifications by passing the examinations to be set by the Society. Arrangements have been made for examination to be taken by candidates for admission to membership in various parts of the country. One examination center will be established in each sub-division of the country in which a number of applicants sufficient to justify holding the examinations are located. An adequate opportunity has been given the first group of applicants to prepare for the examinations. The examinations consist of a series of five examinations in transportation and traffic management and in related subjects such as marketing, economics, geography, government, industry, commercial or business organization, and the elementary legal aspects of transportation and traffic management.

The Announcement and Bibliography of Study Subjects was issued by the Society in May, 1948. The subjects upon which examinations shall be given include one examination in each of the following subjects:

1. Transportation economics—that is, the organization, functions, and services of transportation carriers;
2. The principles of traffic management—that is, the



Low Maintenance Warehouse Truck

An improved flat bed warehouse truck made of all steel is now in production. Offered by Garrick Industries, Inc., Beverly Hills, Calif., the truck bed is of 10 ga. steel with self-flanges to preclude welding, is reinforced to prevent sagging and moves on heavy industrial wheels. The truck is expressly designed to reduce injuries to employees, and to provide very high maneuverability in close quarters through low turning radius.

core materials of traffic management, including classification, rates, services, and kindred subjects;

3. General business—that is, the aspects of business or economics which are related to transportation and traffic management, including the basic principles of economics, the marketing of goods, government or political science, geography, and finance or banking. It should be repeated that the applicant shall not be examined on all aspects of these subjects but only upon the aspects of the subjects which are necessary and useful for persons engaged in traffic and transportation work;

4. The elements of interstate commerce law and regulation—that is, the organization, functions and duties, modes of procedure and enforcement of orders and review of orders of the Interstate Commerce Commission. A waive of this examination is granted to those who have

passed the Interstate Commerce Commission's practitioner examination;

5. The fifth examination consists of an original paper to be written by the applicant, wherever he pleases to write it upon a subject selected by the applicant, subject to the approval of the Director of Education of the Society, on any subject related to transportation or traffic management. The subjects may include papers on any type of carrier services, rates or charges, industrial traffic management, commercial or trade association traffic work, government traffic work, materials handling, loading or stowage—any subject in short in which the applicant is particularly interested or proficient. The paper should ordinarily be from 3,000 to 5,000 words in length and may be in the form of an article, essay, problem and its solution, report or brief. The object of this examination is to enable

applicants to demonstrate capacity to organize materials and present them in clear English and in good form.

Applicants for membership may take as few or as many examinations at one time as they choose. It is recommended by the Board of Examiners that applicants take not less than two nor more than four examinations at any one examination session.

The officers and directors of the American Society of Traffic and Transportation are members in their personal capacities and not as representatives of carriers or industries. Their experience and training, however, have been in many phases of transportation and traffic work including: industry, chamber of commerce, distribution, railroad, trade association, manufacturing, raw materials production, Interstate Commerce Commission practice, motor truck transportation, public utilities, petroleum refining and pipe-line transportation, water transportation, air transportation, and transportation education.

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Bodies for trucks and vans have to earn three kinds of approval.

Management approves their economy due to low maintenance expense.

Drivers approve their comfort and convenience contributing to personal efficiency and easy loading.

The public approves their attractive appearance which inspires confidence in the companies whose hauling is done in Gerstenslager Bodies.

Gerstenslager design and workmanship applied to your specifications assure you this triple quality in any type of custom-built body you choose.

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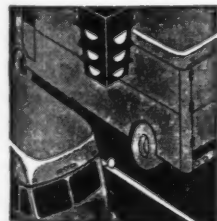
O.K! O.K! O.K!



GERSTENSLAGER

custom-built

Van Bodies



SO YOU'RE FULLY INSURED

(Continued from Page 58)

the probable fire loss of damage and carry only a limited amount of coverage to protect that estimate of probable loss or damage. This resulted in a loss ratio to the insurance companies out of proportion to the premium paid. A co-insurance clause was invented to induce property owners to insure more adequately in relation to the value involved, the inducement being a material reduction in the rate and other liberalities to the advantage of the insured in the way of insurance forms with broader and less restricted coverage. Despite the volumes that have been written and explanations offered on this subject, it is surprising how often we run into management that is unfamiliar with its precise application. The record of losses and actual adjustment made during the year 1947 is astounding when official and insurance companies' actual statements are consulted, as they reflect the fact that on 70 per cent of all losses suffered the policy holder became a co-insurer, resulting in an unheard of amount of dollars withheld due to failure to comply with co-insurance requirements. The expression, "The greater the value the less insurance you collect," sounds like an anomaly, but

it can be true.

Rising prices have had a noticeable effect on management in relation to insurance matters, but some of this is sketchy and limited to considerations of insurance placement without full realization of the effect when a loss occurs. To fully consider an insurance program, it is necessary to look not only to the present and insurance placement but also to future eventualities and endeavor to visualize conditions at the time of a loss in the light of available data.

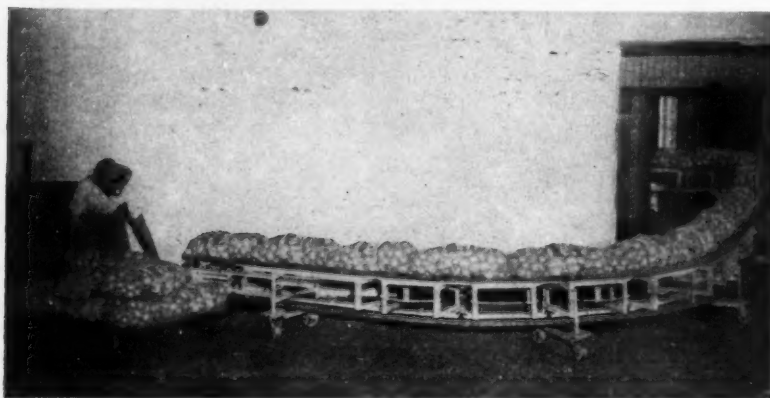
The use of price indices has become popular in this area of rising prices and I cannot emphasize too strongly the hazard of their use. In these days, everyone is thinking in terms of rising prices, higher levels, increased insurance, etc. While this is generally true, it may interest you to know that there are some items of construction which, in their reconstruction after a loss by fire, would involve lesser costs than figures obtained through the application of increased prices to the materials and labor costs as originally determined. This is due to improved methods of construction such as, for instance, trench work which would now be done by machinery rather than with hand labor, with a considerable reduc-

tion in costs. In the valuation and appraisal of properties today, we not only give consideration to present market prices but also to the manner under which construction would be performed under present conditions. Thus, again, it will be seen that price trends can only furnish general information.

Again referring to co-insurance—inasmuch as between 80 per cent and 90 per cent of all losses are partial, this clause has a very fertile field for operation. Insurance companies have in public statements admitted that in recent years the application of this clause has cost policy holders large amounts because of failure of the insured to increase amounts of coverage under both blanket and specific forms of insurance embodying a co-insurance clause.

As most of you undoubtedly know, the standard fire insurance contract limits recovery to actual cash value which, as previously stated, is generally interpreted as cost of reproduction less depreciation. In the event of loss, this leaves a gap between recovery and replacement of the property to the extent of the depreciation determined. This difference however may be insured as under a "depreciation insurance" endorsement of the prior policy. Another similar type of insurance now available in most states is known as "Repair or Replace" insurance. There is an interesting explanation of this type of insurance by Marshall B. Dalton, President of the Boston Manufacturers Mutual Fire Insurance Company and the Mutual Boiler Insurance Company of Boston, in the January, 1948, issue of "The Controller" from which the following is quoted:

"'Repair or Replace Insurance' is covered by endorsement of the Fire Policy, increasing the insurance, in consideration of additional premium deposit computed at the regular fire rate, on the amount of additional insurance required under the endorsement to equal the excess of the replacement or repair cost over the actual value of the damage property after depreciation. Recovery is limited by the actual expenditure in replacing or repairing on the same or another



Flexible Conveyor

A new conveyor capable of making a 90 deg. turn within six ft. is now undergoing tests at sugar factories in Colorado. Manufactured by H. W. Creager Mfg. Co., Arvado, Colo., the conveyor is available in 20 to 40 ft. sections, which when combined permit horizontal and vertical flexibility and reverse loading and unloading. Power is furnished by a 2 h.p. motor. The conveyor has been thoroughly plant-tested and distributor outlets are being organized.

site with materials of like size, kind and quality, and by the face value of the policy. If the damaged property is not replaced or repaired there is no liability for this excess cost. The owner cannot under the rider-endorsement make a profit if he decides not to rebuild.

"Repair or Replace" Insurance is quite different from Depreciation Insurance and produces an entirely different result. Depreciation Insurance does not require the replacement of property. "Repair or Replace" Insurance does. In the event of loss under Depreciation Insurance the assured collects in cash a sum representing the depreciation value of the property in addition to its actual value. If he chooses not to rebuild, obviously he has realized a profit. He has suffered no loss unless he is compelled by rebuilding to invest an amount in excess of the insurance recovery on an actual value basis. The requirement for the replacement of the damaged property and the limit of the liability to the actual amount expended makes it clear that "Repair or Replace" insurance is a contract of indemnity."

"THE BENDS"

(Continued from Page 65)

humidity. The box maker had shown a test of 235 in his laboratory under controlled conditions of 50 percent R.H. and 73 deg. F. A few days later when the weather had cleared up, these same boxes showed a Mullen test of over 200.

Rule 41 of the Consolidated Classification now states that "Cady or Mullen test must be made after board has been subjected for at least 3 hours to normal atmospheric conditions (50 to 70 percent relative humidity)." A minimum of 50 percent is given because the Mullen test of corrugated board will also be abnormally low if the boxes have dried out, as is often the case when they are stored or exposed in a steam heated room in the wintertime.

Glassware and liquids in large metal cans are the only commodities whose container specifications are covered in the rule itself. The carriers, boxmakers and shippers all realize that there is no univer-

sal specification that will cover fibreboard containers for all commodities. Rule 41 described boxes but does not mention performance tests. Committees representing these interests are now at work in an endeavor to develop specifications and performance tests for specific commodities. An indication of this trend is the fact that the Classification Committee recently granted a permit under Rule 49 for a shipper to use a lower Mullen test box provided that it meets a minimum top to bottom compression test.

So far, little has been said about the designing of fibreboard containers. As testing methods for specific commodities become more familiar, we realize that container designs must also be affected by the nature of the contents.

Thus, with liquids in glass, we find by laboratory tests that glass breakage may occur in the center of the package and not always at the edges and corners. The experienced designer has accordingly adopted the maxim: "Build from

(Continued on Page 73)

go right up the steps

ON THE FAMOUS CATERPILLAR TREAD

This crawling action lets the ESCORT roll up and down steps and curbs without slipping, jarring or bumping. It eliminates lifting . . . gets more work done every day. On level surfaces the ESCORT rolls easily on the two rubber-tired wheels.

The S-2-S (top) is available in steel or aluminum and will handle 1200 pounds and 800 pounds respectively. The A-2-S-M (bottom) can be used in the regular fashion. On level surfaces the swivel wheel is dropped for use. The heaviest load can be moved without weight on operator. Available in both steel and aluminum.

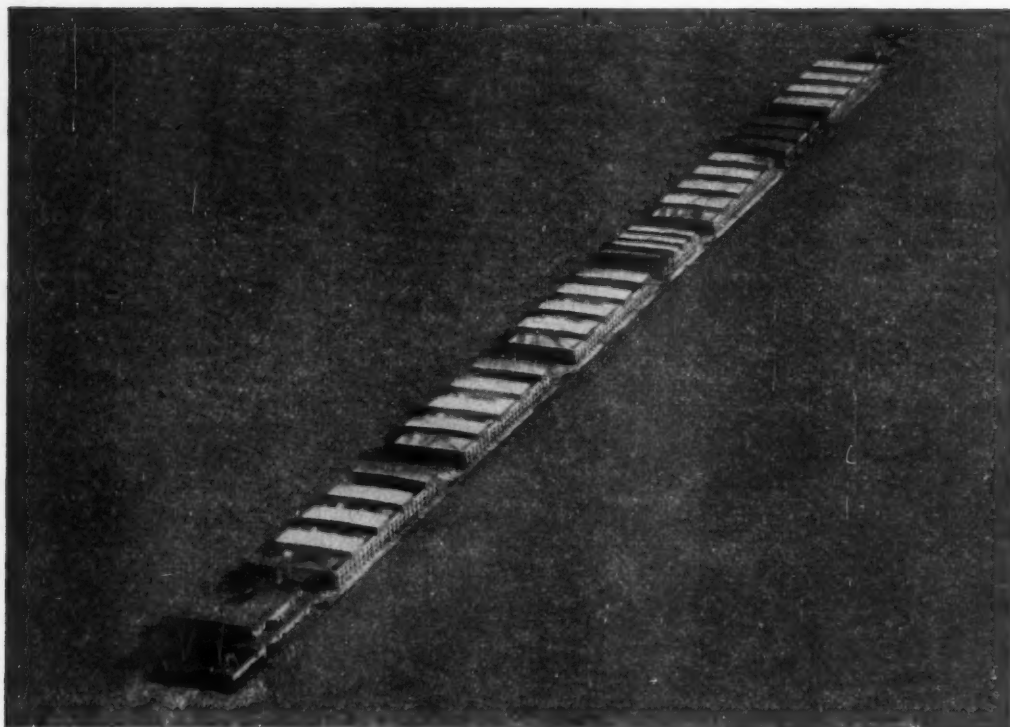
Write for descriptive folder and prices.

STEVENS APPLIANCE TRUCK CO.
P.O. Box 897
Augusta, Ga.

NOVEMBER, 1948

All ESCORT trucks are sold on a money back guarantee. If not satisfied after fair trial, return for refund of full purchase price.

CHAIN BARGES



Integrated tow with special bow; this barge train designed to ply the Mississippi River has all the latest navigational aides including radar and radio telephones. The 1000 mile trip to New Orleans will take a week.

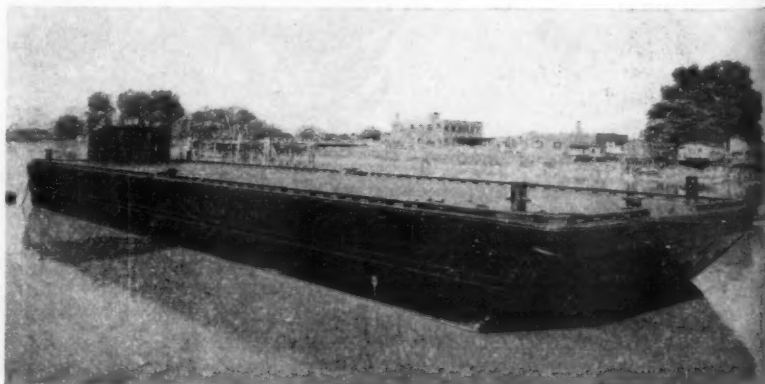
INLAND waterway transportation, as represented by the barge, is coming out of the doldrums. The old advantages of low cost per ton mile for river and canal haulage are now joined by a third advantage: speed. Barges with heavy loads can now hit ten miles per hour; bulk commodities, particularly dry cargo, and even packaged goods can now be delivered with greater dispatch than heretofore.

The inland waterways of the U. S. represent the most integrated, extensive and improved system to be found anywhere on the face of the globe. For almost a century, waterways have been used because of the increasingly heavy competition of other media of transportation, particularly the railroads. Ten m. p. h. speeds will be above the average for some years to come.

While there never has been speed competition between barge and rail transportation, the improved speeds of the newer barge trains combined with the fact that one barge train of the dimensions shown elsewhere on these pages,

has the capacity of several 100-car freight trains, suggests that in respect delivery schedules there is much less disparity in the two media than relative transit speeds indicate. Lastly, the estimated 10 m. p. h. speed of the

Welded steel deck lighter designed for harbor service by the Delaware, Lackawanna and Western Railroad, measures 112 ft. by 32 ft. by 9.5 ft.



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SPEED DISTRIBUTION

barge train may well be exceeded in actual operation under favorable conditions. The 10 m. p. h. speed, in any case, is an average and well understates top speed.

Obverse of the Coin

On the other side of the ledger, it must be remembered that the barge train will have a variable number of barges (and a variable total load) depending on downstream and upstream requirements. This would be true even if it was relatively inexpensive to keep empties in tow on an entire trip. Where costs are measured in mills per ton mile, an empty barge does, add to fuel costs. Also, maximum benefits do not exist for shippers on every inland waterway since other factors often determine values. In fact, the advantages of the barge train, other things being equal, vary as the number of barges in tow; the longer the barge train, the larger the pay load and the more advantageous the cost position.

The barge train is not a cure-all for depressed inland waterway transportation but serves to awaken shippers to new possibilities in cost savings on basic commodities and even packaged goods. They may well lead to at least a partial rebirth of activity on the great inland waterway system of this country.

Waterway Terminals Group Formed to Unify Services

A new corporation, Waterway Terminals Corp., has been formed to take over the operation of the terminals of the Federal Barge Lines. The new step has as its purpose the expansion and unification of service. Waterway Terminals Corp. is already operating six terminals: at St. Louis, East St. Louis, New Orleans, Vicksburg, Chicago and Peoria. The company is negotiating to take over four others, located at Memphis, Kansas City, Minneapolis and St. Paul.

The corporation is owned by the St. Louis Terminal Warehouse Co. of St. Louis, the North Pier Co. of Chicago, the St. Paul Terminal Warehouse Co. and the Minneapolis Terminal Warehouse Co. Assets for these companies, which are major operators in their respective areas, exceed \$3.5 million.

Heretofore, the terminals were operated under lease to Federal Barge Lines. Where the leases have expired, the new company is taking over; where they have not expired, the Waterway Terminals Corp. is acting as agent for Federal Barge Lines. Officials of the terminal company include C. J.

LaMothe, president; W. W. Huggett of Chicago, vice president, and P. W. Frenzel of St. Paul, secretary-treasurer. Headquarters are located in St. Louis.

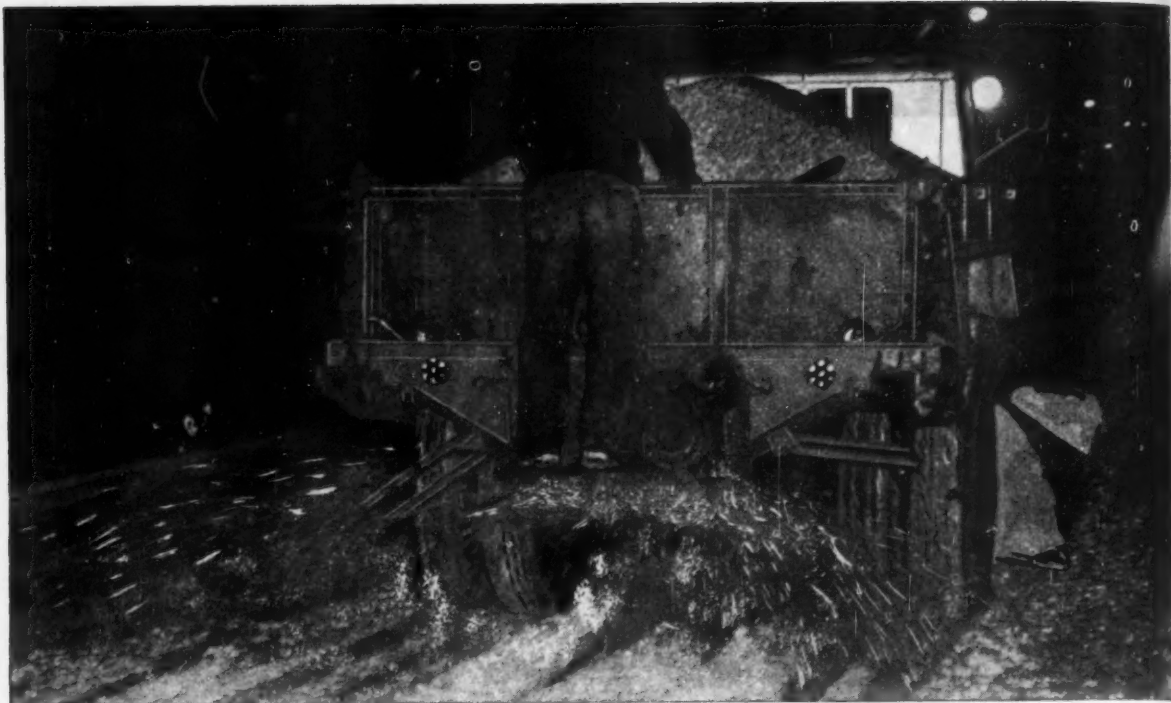
The new plan will help coordinate rail and water transportation, open the terminals to all waterborne cargo and should prove beneficial to cities served. The terminals involved now handle about two million tons of freight yearly. It is also anticipated that financial savings will accrue to Federal Barge Lines. The establishing of what is actually an organization specializing in freight handling will cut costs and also expedite traffic and freight.

By this new development, the second step has been taken in developing inland waterways transportation. The first was to integrate and modernize transportation and handling; the second was to separate the transportation phase from that of warehousing and materials handling. This indicates that progress is being made in the inland waterways field and that further development of barge traffic may well be anticipated.

Test shipment of flour in Dravo containers. These containers can take other dry cargo.

One unit of a semi-integrated fleet of oil carriers for river service to refineries.





Snow Removal Is Materials H

A snowfall lasting just a few hours can throw materials movement and shipment at a plant into complete confusion . . . The three methods to overcome the difficulty are: prevent snow from falling; prevent it from forming once it has fallen; remove it.

By **BENJAMIN MELNITSKY**
Special Correspondent

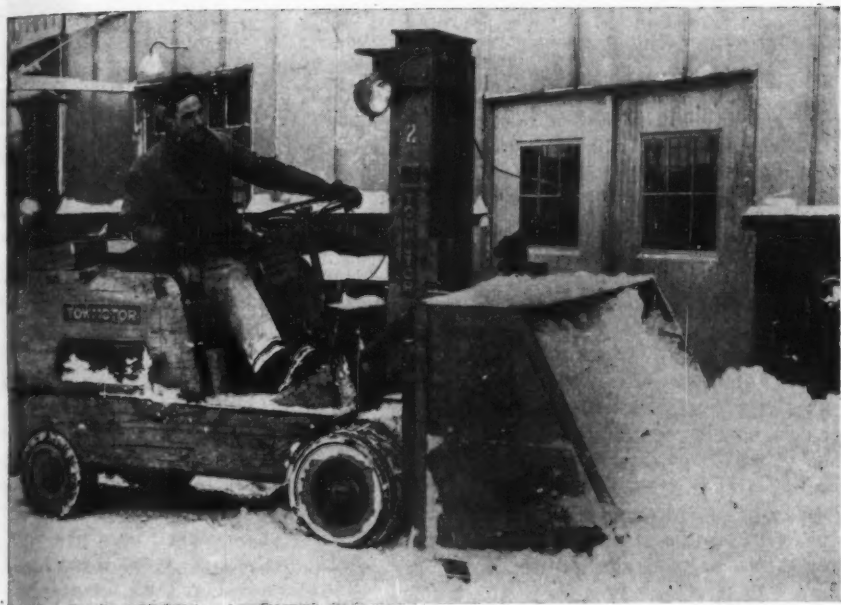
THE greatest seasonal snowfall on record occurred at Tamarack, Cal., during 1906-07 when a grand total of 884 in., or over 73 ft. of the white frosty stuff descended on that particular section of the Golden State. We won't forget how transportation in New York was completely demoralized as the result of a snowfall of 25.8 in. It can well be imagined how snow in such profusion can put a decided crimp in plant operation. In reality, a snowfall lasting a few hours is more than enough to throw a plant into complete confusion, to hamper materials movement among plant buildings, and to effectively block incoming motor trucks. Although to shiny-eyed youngsters, sporting goods manufacturers and ski fiends, the sight of a beautiful blanket of snow caressing the

ground is a joy to behold, to plant management the snow blanket is just an icy covering to a bed of pain. In other words, the deeper the snow, the greater the woe.

Naturally, plant management is not entirely defenseless against the onslaughts of snow. Speaking very generally, there are three actions to be initiated when the clouds get gray, the temperature drops, and there's the unmistakable feeling of snow in the air. They are: (1) prevent snow from falling, (2) prevent it from forming once it has fallen, and (3) remove the fallen snow.

The first, preventing snow from falling, might appear at first glance to be a trifle beyond the scope of plant management. True enough, science, with considerable aid from nature, can cause snow to fall by sprinkling dry ice

amidst the clouds. However, it does not follow that science or plant presidents can cause snow *not* to fall by sprinkling wet ice. The answer lies elsewhere than in the clouds. To prevent snow from falling on any given object or area, the area must be covered or the object brought indoors. In any given plant, snow has the following effects: it blocks driveways for incoming and outgoing vehicular traffic; it clogs passways between buildings and prevents inter-plant pedestrian and industrial truck movement; it bars access to outdoor areas where castings, hot rolled bar stock, forgings, and other materials are stored; it blocks passways to coal bins, oil tanks, lumber piles, and other maintenance materials stored outdoors. Preventing snow from falling on these areas would entail the



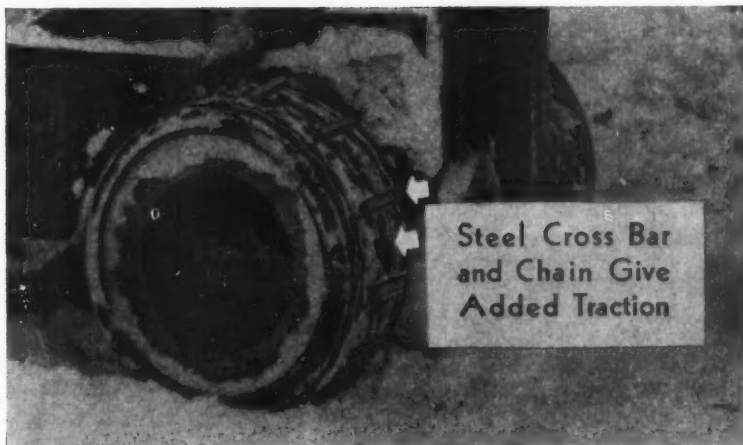
20-cu. ft. scoop made from scrap metal is an efficient snow removal device.

Schramm, Inc., solved its problem of providing extra traction thus.

Handling

use of protective covering wherever possible. Plant management can emulate the turtle and its protective shell by constructing sheds to cover passways between plant buildings, or emulate the mole and dig subways to link buildings, or emulate the birds and go overhead by building sheltered overpasses or bridges to connect adjacent structures. These are the three basic means for preventing snow from falling on exterior plant areas. However, protective shelters are not always feasible, especially in outdoor storage areas. Here, plant management can borrow from the robins who, when it gets sufficiently cold, pack their things and head south. The managerial counterpart is to remove materials from exposed areas and bring them indoors. This rather simple reasoning has considerable value, especially in those plants fortunate enough to own marginal building space.

Eliminating the areas for damage by preventing snow from fall-



Steel Cross Bar and Chain Give Added Traction

Special scoops can also be used for other purposes than removing snow.



ing on plant areas is the first approach to the problem of snow. Of course, not everything can be brought indoors, and not everything can be sheltered from the snow. For those areas where the snow must fall, logic would dictate permitting the snow to fall but preventing it from remaining on the ground once it has fallen. There are two general methods for doing this. The first entails the use of heat to melt the fallen snow, the second calls for a "pinch of salt." Both methods have worked successfully in industrial plants and elsewhere. The former is the rather new system of radiant heating which is now being used by department stores, churches, office buildings, theatres, airports, and others to remove snow and ice or to keep walks, driveways, landing ramps, and other areas snow- and ice-free. Wrought iron pipes carrying hot air or steam are imbedded underground and serve to increase above the freezing point the temperature of the surface pavement. The snow, as it drops on the warm area, acts most logically and melts. In a plant this system can be, and in many instances has been, applied to ramps, passways, driveways, loading platforms, walks, and other areas which must be clear of snow and ice. Of course, the system has its limitations. Entire plant exteriors can not be undermined with wrought iron pipes. The cost would be prohibitive and the end results would hardly justify the expensive means.

For snow-prevention in larger areas, the "pinch of salt" mentioned earlier can be used. The salt technique was demonstrated dramatically last year by the Hartford Street Department. By using about 55 tons of rock salt for 75 miles of city street, the city was able to keep traffic going during the heaviest snow storms. On a smaller scale this same technique can be emulated in industrial areas. The procedure followed in Hartford is as follows: As soon as snow begins to fall, the city's trucks equipped with spreaders and loaded with rock salt are dispatched to spread the salt over 75 of the busiest 200 miles of city streets. City traffic serves effec-

tively to mix the salt and the snow together into a consistency that resembles corn meal. Instead of caking to the street, the snow remains loose. By midnight, snow plows pass over the streets and easily toss the mealy snow over to the curb to be picked up by snow loaders. The salt acts to bore through the fallen snow, loosen it and prevent it from binding to the pavement.

Where snow is not too heavy, the saline solution of salt and melted snow prevents snow from forming or turning into ice. The amount of salt required for Hartford city traffic is estimated by its superintendent of streets, Royal W. Thompson, as one ton of rock salt to each $1\frac{1}{4}$ miles of street, based on an average street width of thirty feet. In a busy city, traffic serves to hasten the melting action of the salt; in an industrial plant where there may be less traffic, more salt than indicated above may be required. However, for parking lots, motor truck lanes, and other areas with heavy vehicular or pedestrian traffic, salt for melting snow as it falls has a decided advantage and can be used for effectively combating the snow problem.

Mr. Thompson in a letter to the writer has the following to say as to the advisability of using salt for industrial application: "It is my opinion that the use of salt would definitely assist in the keeping of yard areas, loading platforms, intra-plant roads, etc., at industrial factories free from snow and open to plant traffic. The early application of the salt will prevent the snow and ice from freezing or bonding to the road surface or pavement. In the event that traffic is heavy, the action of the traffic itself will probably re-

move and melt a great deal of snow. If the density of traffic is not sufficient, salt will hold the snow and ice in a soft condition until suitable plowing can be carried out."

The above-outlined steps will in many instances reduce the amount of snow that has to be handled and will ease the problem of snow to a considerable extent. However, there will still be the problem of removing snow that has fallen. Tractors equipped with rotary brooms or plows, motor trucks with plow attachments, and other equipment available in the plant should be used for removal of snow after a storm. Part of the snow-removing procedure used at the West Chester, Pa., plant of Schramm, Inc., is illustrated. Snow is piled in the center of the area being cleared by a tractor equipped with a snow pushing blade or plow. Accumulated snow is then transported directly to the disposal area by a specially-equipped fork lift truck with a 20 cubic foot capacity scoop mounted on the truck's hydraulic lifting mechanism. One important shortcoming of using industrial trucks for snow removal or even for operation in snow-covered areas is the low degree of traction afforded by the truck's small wheels. This was solved by the Schramm firm by devising special chains to fit over the fork truck's drive wheels. This ingenious device consists of a $\frac{1}{2}$ in. link chain spaced with metal cross bars 5 in. apart and measuring $\frac{1}{2} \times \frac{1}{2} \times 4\frac{1}{4}$ in. long. This chain device insures excellent traction not only in deep snow but on icy pavements as well.

Another materials handling device which can be adapted to snow-removal work is the portable conveyor used for handling coal and other heavy materials. The conveyor is wheeled to the area where snow has accumulated. Snow is shoveled by hand onto the conveyor and carried into the motor truck. This technique eliminates the difficult job of hand shoveling snow from the ground into the truck. Yard cranes, crane cars, and other materials handling devices in the plant exterior should be utilized for snow removal work.

Two Billions Thrown to Rats

A new product which may cut down the yearly rat damage is known as Protekwood. This laminated veneer and fibre board, under conditions established at various tests, offers full rodent protection. While concrete or sheet metal gives rat control, these products are frequently too expensive for the job requirement. United States Plywood Corp., New York, N. Y., believes the new board is the answer to cheap and effective rat control. Warehouses please note.

CARRIER COOPERATION

(Continued from Page 59)

the railroad has an eye to their needs too. Our road, co-owner with the Southern Pacific of the Pacific Fruit Express, recently completed a refrigerator car icing plant seven-tenths of a mile long at Laramie, Wyo. Because of the huge size of the platform, cars loaded with perishables headed for highly competitive eastern markets are iced and on their way with a minimum of delay, and losses due to changing market prices while in transit are reduced.¹

The Pacific Fruit Express fleet is considered the largest and most modern fleet of refrigerator cars in the world. It has already reached the record size of 40,000 cars. Delivery of 3,000 new refrigerator cars, ordered in March of this year, when completed, will bring the number of new refrigerator cars put into operation since 1941 to a total of 10,000, enough to make a train 80 miles long. The company is now receiving the last few hundred cars due on its 1947 orders.

The same spirit of cooperation with the shipper prevails throughout our road's entire operation. At Aspen, Wyo., where a tunnel proved a bottleneck on the east-west haul, a new tunnel is being driven which will materially speed traffic on the main line. Centralized traffic control, which gives a single track 75 percent of the efficiency of a double track, is being installed on the road's line between the west coast and Salt Lake City. When complete, it will be the longest stretch of C.T.C. in the world.

Since the war, Union Pacific's board of directors, realizing the importance of service plus close cooperation with shippers, has authorized a total expenditure of approximately 200 million dollars for improvements, some of which have been completed and some of which are still in progress.

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● You've got a crane with hook or magnet anywhere you want it around your yard exactly when you want it—when a Roustabout is on the job. Fast, powerful, this mobile load-hustler gives you low cost materials handling outdoors all around your plant to match your indoor efficiency. It keeps things organized, on the move, prevents costly delays—no waiting for crews from other jobs. Built for years of overwork—ball-bearing boom turntable, all gears in oil. Capacities to 7½ tons—it's the answer to your yard problem. For complete facts... write to Dept. A-6.

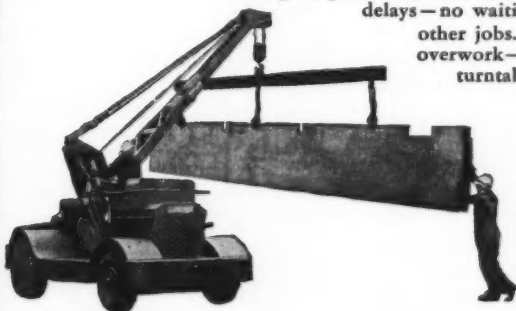


Photo courtesy of Industrial Power Division,
International Harvester
Company



HUGHES-KEENAN CORPORATION

DELAWARE, OHIO, U. S. A.

Load-Handling Specialists since 1904

¹ DISTRIBUTION AGE, July, 1948.

COMPETITIVE TRANSPORTATION

(Continued from Page 60)

"It isn't interference on the part of Congress," McCormack maintained. "That body merely exercises its authority under the constitution. Bear in mind, for example, that the states cannot place taxes on goods moving in interstate commerce regardless of their right to levy taxes. There are many court cases, but one will suffice. In 114 Fed. (2nd) 916, the court declared: 'Paint moving continuously from Chicago to the Milwaukee freight station of the railroad ordering it, moved interstate from the inception of the journey. It was not subject to the Illinois retailers' occupational tax.' Here, you see, the court clearly stresses that the power of Congress is superior to that of any state insofar as interstate commerce is concerned."

"Sometimes it's difficult to determine whether a shipment is moving in intrastate or interstate commerce. What is the test?" Dunlap inquired.

"It's not too complicated," stated McCormack, "as indicated in 38 Fed. Supp. 230 in which the court said: 'The actual intention of a shipper at the time of the initial commitment of the particular car (shipment) at the interior point constitutes the determinative test.'"

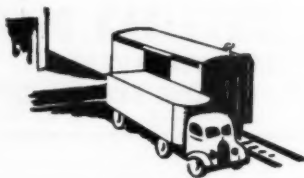
"Does that mean that the purchase and sale of commodities as well as the transportation are considered as part of interstate commerce?" Dunlap exclaimed.

"Surely," responded McCormack. "When commodities are bought in one state for use in another state, the sale is just as much a part of interstate commerce as is the transportation after sale.³ Interstate commerce includes not only the transportation of persons and property, but also the purchase, sale, and exchange of commodities.⁴ By the same token, a state cannot defeat Federal taxation by creating a corporation. This is referred to in 37 Fed. Supp. 663 in which the court stated: 'Operation by California of a terminal railroad for moving

railroad freight for the public for hire, between a state-owned port and connecting carriers and industries, was not a governmental function, therefor not immune from Federal excise tax.'"

"On the other hand," Dunlap persisted, "aren't there instances where states have passed laws involving interstate commerce, at least, to some extent?"

"To be sure," McCormack acknowledged. "A state is free in the exertion of its police power to enact reasonable measures in the interest of the health, safety and welfare of its people, including employees of railroads, passengers and others, even though interstate



commerce may be incidentally or indirectly involved.⁵ Mere Congressional delegation of power to the Commission to act does not require the state to yield.⁶ It is only after action by the Commission that the state is shorn of its power."

"May I break in on what appears to be a most interesting powwow?" a cheery voice interrupted.

McCormack and Dunlap looked up to find standing before them Rufus Cox, division freight agent. They extended greetings and urged him to sit down with them. "Tom and I are having a confabulation on the national transportation policy," McCormack informed him.

"Is there such a thing?" murmured Cox, jokingly, as he sat down next to Jack on the sofa.

"Most assuredly," smiled McCormack, "and the declaration is carried in the Interstate Commerce Act. This afternoon I jotted down some of the pertinent

parts which I'll now quote: 'It is hereby declared to be the national transportation policy of the Congress to provide for fair and impartial regulation of all modes of transportation subject to the provisions of this Act, so administered as to recognize and preserve the inherent advantages of each; all to the end of developing, coordinating, and preserving a national transportation system by water, highway, and rail, as well as other means, adequate to meet the needs of the commerce of the United States, of the Postal Service, and of the national defense.'"

"And it was an important forward step when Congress finally decided to adopt a national transportation policy," Cox added. "If I recall correctly, the dictionary defines 'policy' as 'a system of regulative measures; wisdom in management of public affairs.'"

"Jack, in that declaration which you just read to us, I notice that Congress refers to coordination. Am I to understand that the railroads are to be permitted to gobble up the motor carriers, or vice versa?" Dunlap demanded.

"Quite the contrary," McCormack protested. "Congress did not intend, and the Act does not permit, such action as you suggest. Let me remind you that the declaration states 'developing, coordinating, and preserving a national transportation system by water, highway, and rail'. From a fundamental viewpoint consider co-operation, or acting in concert, by the various carriers as the aim of Congress rather than any attempt to finally combine all carriers into a single agency. Do not overlook the fact that railroads are members of the national transportation system which the Motor Carrier Act was designed to coordinate.⁷ The commission in determining the precise territory which may be served by a particular carrier cannot be unmindful of its responsibility to coordinate the various transportation agencies which constitute our national transportation system."⁸

"But," Dunlap insisted, "quite often I see railroad-owned or leased motor trucks operating on

(Continued on Page 74)

"THE BENDS"

(Continued from Page 65)

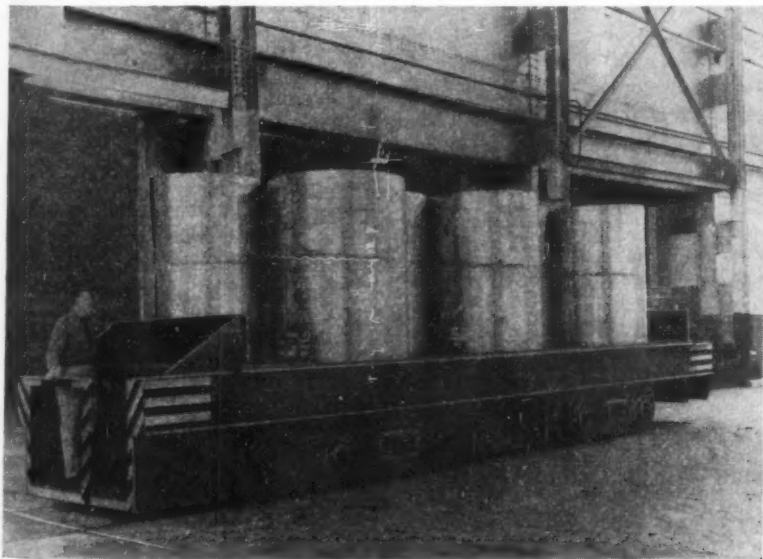
the center out." By this he means that it is of the utmost importance to protect the bottles from each other and to produce a snug fit. In fact, strong and proper inner packing here is almost more important than the test of the outer case. Here the designer likes to check his progress with some form of rough handling such as the drum or drop tester.

For packing expensive, fragile objects like small radios, television sets and certain furniture items, the designer has to think of outside blows and impacts, so he provides creased sheet "air cushions" around the six sides and also uses various creased and or die cut sheets to keep the contents from shifting. Here again the design is checked by drum and drop tests.

Heavy or massive objects such as washing machines or refrigerators usually require a wooden skid to which the contents and the fibreboard box and packing are securely anchored, usually with steel straps. One of the greatest developments in fibreboard designing has been its use for extra large

items such as electric refrigerators weighing several hundred pounds. One of the largest producers is now shipping all its domestic refrigerators in a corrugated package with only the bottom skid made of wood. (This by the way, is an interesting use of skids as an integral part of the package.) You can read the specifications under Package No. 994 which was added to the Classification August 18, 1948 and carries no size or weight limit. They are saving money and having hardly any claims on this package, which has been in use now for about a year on a rule 49 permit. Don't think, however, that this design wasn't the result of many hundreds of man-hours in design and re-design and laboratory testing.

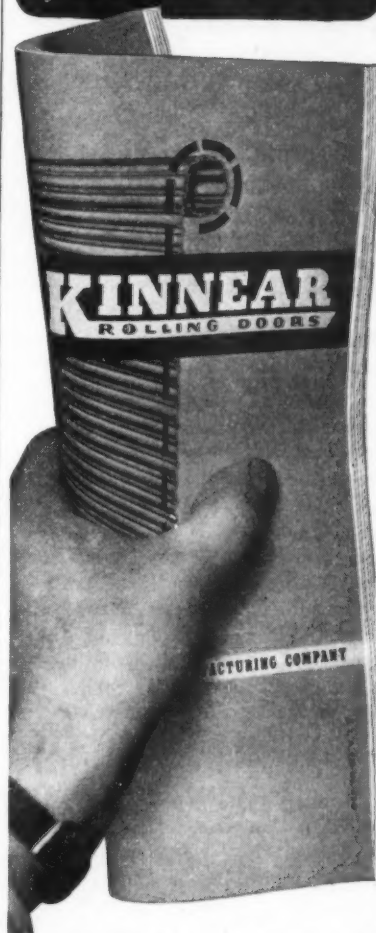
We could extend this list to dozens of other commodities, each with its own problem of design, testing and re-designs. Suffice it to say, however, that the modern fibreboard case designer is using intelligence, experience and scientific testing methods in place of crossing his fingers and praying, "I hope—I hope."



Car for Handling Strip

A 135-ton battery-operated car for handling strip is now in operation in a large eastern steel mill. Manufactured by Atlas Car & Mfg Co., Cleveland, Ohio, the car operates on rails, is of low speed to enhance safety and is controlled by a single lever. The car has an automatic battery charging motor-generator which can be easily plugged into the plant power system, making it possible to keep it in operation 24 hours a day.

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ROLLING DOORS

COMPETITIVE TRANSPORTATION

(Continued from Page 72)

the public highways. What about that situation?"

"Of course you have seen such trucks on the roads," Cox agreed, "but they were in railroad service exactly as if they were freight cars. Under present day conditions way-freight train service, used in serving smaller freight stations, is uneconomical, inefficient;⁹ trucks can be substituted to advantage, both to the railroads and to the public. So far as less than carload or merchandise traffic moved in well-loaded cars on through trains is concerned it can be handled efficiently by rail."¹⁰

"It's this way, Tom," interjected McCormack, "unnecessary and wasteful duplication of service should be avoided in the public interest."¹¹ Reduction in cost, increase in efficiency, of coordinated, rail-truck service by the railroads, benefit the public and are required by public convenience and necessity.¹² It is the policy of Congress and the proper function of the Commission to foster any form of progress in transportation which will serve the public interest."¹³

"Jack, your point is well taken," Cox said. "Substitution of truck for way-freight train service regardless of whether there is a prior or subsequent movement by rail is a part of the plan of coordination;¹⁴ unless it can be accomplished, full benefits in increased economy and efficiency which the public interest demands cannot be secured. Coordinated service to and from railway stations to expediting merchandise traffic will be a useful public service."¹⁵

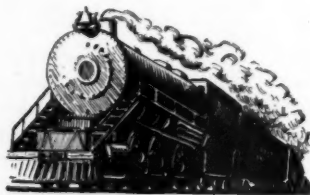
"It means, then," Dunlap commented, "that railroads are not generally permitted to use trucks in competition with regular highway carriers."

"That's my understanding," Cox replied. "In 39 M.C.C. 59, the Commission said: 'The commission is not convinced that the way to maintain future healthful competition between rail and truck

service is to give the railroads free opportunity to go into the kind of truck service which is strictly competitive with, rather than auxiliary to, their rail operations. The language of Section 5 of the Act is evidence that Congress was not convinced that this should be done.'"

"Why doesn't the Commission take direct action in forcing rail and truck coordination?" Dunlap expostulated.

"It is not empowered to do so," Cox explained. "The Commission is without jurisdiction to compel coordinated service between carriers by rail and by motor vehicle."¹⁶ It can only be accomplished through the medium of through routes and rates, which



the Commission has no power to require. Any such plan of coordination must depend upon voluntary cooperation. The Commission may not require one carrier or group of carriers to maintain rates for the purpose of protecting the traffic of others."¹⁷

"I gather from your statement that the intent embodied in the national transportation policy is to eradicate unfair practices while at the same time supporting competition in the field of transportation," Dunlap observed.

"Exactly," declared McCormack. "The Commission is charged with seeing that rates and services of carriers are coordinated in accordance with the national transportation policy which, among other things, was designed to eliminate destructive competition not only within each form but also between the different forms of carriage."¹⁸ The public should not be deprived of a service that

readily can be accorded by one mode of transportation although impractical by another."¹⁹ Competing carriers, while they may not accord identical services under their rates, should be given latitude to establish rates to attract business, providing those rates conform to requirements of law. A competitive rate cut which in the end does the carriers no good is contrary to the national transportation policy, which directs fostering of sound economic conditions in transportation and among the several carriers."²⁰

"I assume the national policy is aimed at enabling a shipper to have a choice as to the mode of transportation he may wish to use," Dunlap said.

"Precisely," McCormack asserted. "For example, an important factor is whether rates should be so adjusted as to afford the shipper a real choice in selection of the transportation agency for the carriage of his goods."²¹ This choice is not afforded if the level of rail rates is so high as to preclude use of rail transportation. On the other side of the picture, a mere difference between all-rail and rail-water rates standing alone does not constitute a violation of the policy provisions of the Act."²² Congress has condemned unfair or destructive competitive practices; admonishing the Commission to administer the Act so as to recognize and preserve the inherent advantages of each mode of transportation."²³

"Preserve the inherent advantages of each mode of transportation," Dunlap repeated. "Say, that's important, isn't it?"

"As I have already told you, it's in the declaration of the National transportation policy," McCormack retorted. "It's also specified in Section 216 (i) of the Act. That section reads in part: 'Common carriers by motor vehicle . . . the commission shall give due consideration, among other factors, to the inherent advantages of transportation by such carriers.'"

"In other words, advance the interests of truckers as against other forms of transport. Is that

(Continued on Page 76)

PACKAGING TEAMWORK

(Continued from Page 25)

mum economy and then such losses would be eliminated. Often this is not possible unless the handling experts are consulted when package designs are created. In the dry goods field, standardization of this type has saved as much as 40 percent; one chain outfit is saving 50 thousand dollars a year, another chain, 60 thousand a year. Standardization cannot ignore design, neither should design ignore standardization. It too often does.

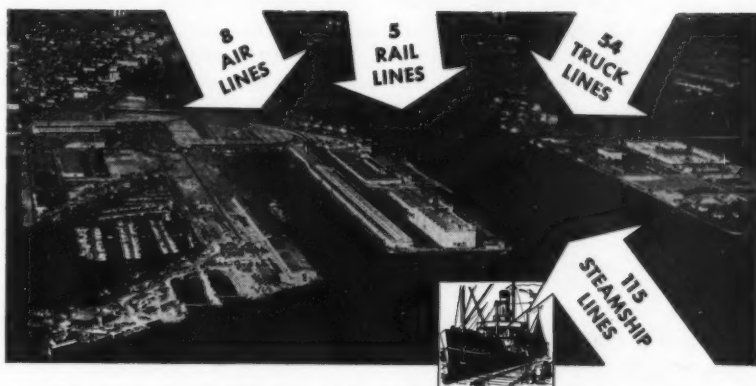
15. Handling costs are a big factor in the selling price; where managements do not coordinate package design with handling operations, the latter runs from 15 to 65 percent of the selling price. It is estimated that 75 to 90 percent of the cost of moving goods in distribution is for packing, container, storage and handling, with the remainder for transportation. 16. Good shipping case design starts from the inside, consequently the designer of the selling unit or primary container should have some idea of what the traffic man or materials handling manager can do or intends to do with nesting, dividers, cushioning materials, etc. 17. The traffic man is familiar with the regulations of the Consolidated Freight Classification and can advise the other members of the Packaging Committee how they can design a package so that it will meet these regulations to best advantage.

17. Movement of materials comprises packaging, handling and transportation, three divisions so interlocked that they cannot function effectively working alone. The men who plan the package must consider traffic and transportation conditions, and the traffic manager should be aware of the possibilities and limitations of packaging and materials handling. The give-and-take is possible only when these executives meet in conference.

19. In numerous instances, the traffic man cooperating with the sales department has been able to save substantial sums, either through reducing tare weight or

(Continued on Page 77)

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COMPETITIVE TRANSPORTATION

(Continued from Page 74)

it?" queried Dunlap, with a grin.

"Not at all," rejoined McCormack. "Under the law the Commission is to recognize and preserve the inherent advantages of each form of transportation subject to the Act, rather than the natural and inherent advantages of motor carrier transportation.²⁴ Trucks have several advantages over rail carriers, but there are advantages in the service by rail.²⁵ While both the motor and rail carriers offer special privileges to shippers each makes its offer in its own particular field, and these privileges are not inconsistent with the natural ability of the carriers to perform such service.²⁶ No one form of transportation should be favored. Any use of rail transportation merely 'to favor the railroads' is economically untenable.²⁷ There's another angle, too. Water carriers are confronted with severe rail and truck competition and must keep their rates in line with those of rail and truck competition."²⁸

"As to railroads and highway carriers, what are some of the advantages of each?" Dunlap questioned.

Cox answered. "In many instances railroads have service advantages such as better terminals for handling pool-car shipments,²⁹ free 'trap' car service for less than carload shipments and generally a 48-hour free time period for loading and unloading carload shipments. Another advantage of rail over truck is that shippers by rail to dealers requiring small lots can meet the situation and compete with nearby shippers through the stop-off arrangement.³⁰ In grain shipments, railroads have a distinct advantage over truck and other forms of transport because of the transit privilege afforded by them at market elevators and processing plants, and the fact that motor and water carriers cannot afford to maintain sufficient reserve equipment to handle the movement at its peak."³¹

"Are those the only advantages of rail transportation?" Dunlap cried in mock amazement.

"Not by a long shot," chuckled Cox. "The steel company prefers rail transportation when rail and motor rates are equal because up to 50 tons can be handled in a single rail unit;³² articles can be loaded directly into rail cars without being pooled; less time is consumed in loading or preparation of the shipping documents. And for good measure let me add that it is more economical to transport fertilizer by rail."³³

"And what about barge service as compared with rail?" Dunlap suggested.

"Generally speaking," Cox claimed, "barge service, aside from

B. C. Warehousemen Organize

The B. C. Warehousemen's Assn., the first provincial warehousemen's association to be formed in Canada, has been organized in Vancouver, B. C., to deal with warehousing problems of local interest. While activities will center chiefly in Vancouver, Victoria and New Westminster, plans include membership expansion throughout the province. President of the new group is Arthur H. Muir, widely known in automotive transport circles in Canada. W. E. Martin and R. E. K. Gordon, both of Vancouver, were elected vice president and treasurer respectively.

the matter of cost, is somewhat less attractive than that by rail."³⁴

"You've made out a pretty good case for the railroads," Dunlap admitted, "but you haven't touched on the inherent advantages of the motor truck."

Cox laughed. "I'll leave that to Jack. After all, you shouldn't expect me to boost the interests of the highway carriers."

"As I view the subject," McCormack began, "the natural advantages of the motor carrier in the short-haul field are well known.³⁵ The superiority of truck service includes pick-up and delivery.³⁶ Motor carriers maintain truckload minimum weights generally lower than rail carriers' carload minimum weights, include pick-up and delivery in their less than truckload and truckload rates and provide more rapid and flexible service.³⁷ Rufus men-

tioned products on which he claims the railroads provide better service than do the trucks. As a sort of friendly rebuttal I'd say that inflexibility of rail service, and particularly the loading and unloading of automobiles entail additional expenses not incurred when shipped by motor carrier.³⁸ Because truck lines have few outstanding obligations in comparison with the railroads, their fixed charges are relatively low, and there is a smaller spread between a motor carrier's net operating revenue and its net income.³⁹

"Even so," countered Cox, "the Commission must also recognize the natural advantages of the rail carriers in furnishing mass transportation at low cost.⁴⁰ An attempt by motor trucks to meet the class rates of rail carriers on low-rated traffic for long distances generally results in unprofitable operations."⁴¹

"Granted" said McCormack. "The rail carriers are entitled to compete for traffic, but the competitive rates should not be so low as to unduly prejudice or destroy competition."⁴²

"To sum up," McCormack concluded, "it is neither the policy of Congress nor the proper function of the Commission to retard any form of progress in transportation which will serve the public interest."⁴³

¹ See 315 U. S. 110

² See 33 Fed. Supp. 906

³ See 37 Fed. Supp. 598

⁴ See 40 Fed. Supp. 448

⁵ and ⁶ See 36 Fed. Supp. 607

⁷ See 315 U. S. 15

⁸ See 315 U. S. 745

⁹ 30 11 12 See 28 M.C.C. 5

¹⁰ See 30 M.C.C. 490

¹¹ See 28 M.C.C. 5

¹² See 24 M.C.C. 261

¹³ See 28 M.C.C. 5

¹⁴ See 245 I.C.C. 207

¹⁵ See 321 U. S. 194

¹⁶ See 251 I.C.C. 283

¹⁷ See 258 I.C.C. 771

¹⁸ See 251 I.C.C. 691

¹⁹ 248 I.C.C. 231

²⁰ 30 M.C.C. 651

²¹ See 243 I.C.C. 767

²² See 251 I.C.C. 553

²³ See 245 I.C.C. 545

²⁴ See 253 I.C.C. 351

²⁵ See 243 I.C.C. 47

²⁶ See 24 M.C.C. 501

²⁷ See 241 I.C.C. 291

²⁸ See 247 I.C.C. 581

²⁹ See 42 M.C.C. 747

³⁰ See 43 M.C.C. 511

³¹ See 253 I.C.C. 487

³² See 245 I.C.C. 545

³³ See 24 M.C.C. 501

³⁴ See 28 M.C.C. 31

³⁵ See 33 M.C.C. 433

³⁶ See 42 M.C.C. 633

³⁷ See 245 I.C.C. 545

³⁸ See 24 M.C.C. 501

³⁹ See 245 I.C.C. 231

⁴⁰ See 28 M.C.C. 5

PACKAGING TEAMWORK

(Continued from Page 75)

by using a package taking a lower rate than the one that had been used. 20. On heavy shipments, particularly those moving via water where the rates may be based on volume, the traffic man's assistance is invaluable in devising ways by which a machine, for instance, can be partially knocked down, or a gear, lever or projection removed, which effects a material cubage reduction in the container.

21. To bring down distribution costs requires better standardization of materials movement in the country as a whole, and this development must begin at the beginning, with a new perspective of package design by management, with the realization that this is as much a job of the traffic man and materials handling supervisor as it is the work of the sales department. There is no better way to make a constructive effort to cut distribution cost than by the establishment of a Packaging Committee in your organization, working not only with internal problems but those of the carriers, conferring when necessary, with transportation officials, packaging engineers and box testing laboratories.

Our whole economy is way out of line on materials movement. A freight car is just a big shipping container on wheels. It should be standardized as to widths, lengths and floor-heights from the top of the rails, car doors should have a minimum width of 8 ft., and construction should be strengthened between the king pins and the ends of cars. Commercial trucks should be standardized so that the interior widths measure a minimum of 100 in. and have uniform tail-board heights. This will enable management to procure standard pallet sizes so that all available floor space is utilized. The materials handling men can then design standardized containers to fit the standard pallets so that the cubic content of interiors, stationery and moving, can be utilized to the utmost. Standardization will bring into being warehouses with standard size bays and aisles, fa-

cilitating storage and movement of goods. These are just some of the features needed in the over-all job of standardization to cut distribution cost and efforts are heading in that direction. However, this goal is attainable only if the men who move the goods get together and coordinate their efforts with the general trend toward standardization. This is a big job, but only when over-all standardization is accomplished will the cost of handling be reduced to a minimum and wastes eliminated.

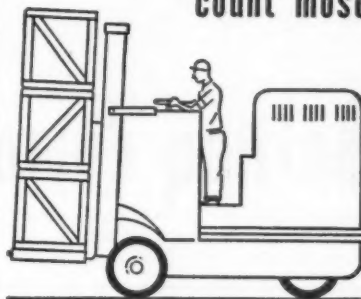
Some companies are effecting substantial economies in handling. By means of standardization, one-

AWI Meeting in Frisco

The 15th annual meeting of the AWI will be held in San Francisco on February 6 and 7 at the Hotel Mark Hopkins. The convention promises to be extensive and will cover some unusual aspects of warehousing sales and operations. A considerable effort has been made to make the meeting outstanding in view of its special anniversary character.

story buildings, modern equipment and techniques, they perform all warehouse functions, pay occupancy costs, inventory costs and wage costs connected with receiving, storing, order selection and truck loading for about 2 per cent of selling price, whereas other companies, less effectively operated in the handling area, are lucky to get by on 15 per cent. Most of this differential is due to bad coordination between the men who sell the goods and those who move them. Where these functions are properly coordinated, it costs less to move goods to the consumer. The traffic man and materials handling manager should have the power of veto in cases where the sales department takes an action in the packaging of production that may hamper operations and increase costs. This is putting the cart before the horse. Turn it the other way around and you have planned packaging—one major step in the reduction of distribution cost.

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Legal Consultant

TRANSPORTATION

Things You Can Do

YOU CAN avoid liability for loss or theft of goods if you are a private carrier and use "ordinary care" to safeguard the goods. In *Meyer v. Rozran*, 77 N. E. (2d) 454, Ill., it was shown that the Cannonball Messenger & Truck Service took a large assortment of wines and liquors for delivery to various customers of the consignor. The carrier accepted the goods for transportation September 27. The following day, September 28, was a Jewish holiday, and many of the consignees were not available to accept delivery of the wine. The carrier stored the wine in its warehouse for the week end where it was stolen. In subsequent suit the carrier proved that it retained the regular services of the Pinkerton Detective Agency, and that its watchmen, during the time the warehouse was closed, made periodical checks. In view of this evidence the higher court decided that the carrier, being a private carrier, is not liable to the consignor for the theft of the wine. This court also held: "A private carrier is one who undertakes by special agreement in a particular instance to transport property without being bound to serve every person who may apply."

YOU CAN recover damages from an intoxicated driver of an automobile who damaged your vehicle. In *Miller v. Blanton*, 210 S. W. (2d) 293, Ark., it was shown that the driver of an automobile was intoxicated when he had a collision. The higher court held the driver personally liable for \$500 punitive damages.

Things You Can't Do

YOU CAN'T refuse to abide by laws regulating interstate commerce if your employees load or handle goods for shipment out of your state. In *American v. Louisville*, 33 So. (2d) 474, Ala., it was shown that an employee was injured in Alabama while changing the merchandise from one vehicle to another vehicle used to transport the merchandise into another state. The higher court held that the employee was not subject to the Alabama compensation law.

YOU CAN'T avoid regulations of the Public Utilities Commission, although you permit a stranger to operate your vehicles. In *Rice*, 165 Fed. (2) 617, a statute provided that the "common carrier" includes every person owning, operating or controlling or managing any agencies for public use for conveyance of persons or property for

compensation. The higher court held that companies which own such facilities are "common carriers" subject to regulation by Public Utilities Commission, although the business is operated by another.

YOU CAN'T refuse to pay damages to one assaulted by your employee. In *Houston Company v. Feld*, 208 S. W. (2d) 880, La., it was shown that a truck driver got angry when a passenger car ran into the rear of the truck. During an argument after the truck driver was getting the name and automobile license number of the passenger car the truck driver struck the driver of the passenger car. The higher court held the employer of the truck driver liable for heavy damages, and said: "... This assault was so closely connected with the performance of the driver's duties as to prevent the conclusion as a matter of law that when he struck Felder he had ceased to act as the company's agent and had begun to act upon his own responsibility."

YOU CAN'T avoid paying damages to persons injured when your truck collides with a forward automobile through negligence of your truck driver. For example, in *McDaniel v. Capitol Transport Co.*, 35 So. (2d) 38, La., it was shown that a truck driver was following so close behind a passenger automobile on a rainy night that he was unable to avoid running into the rear of the automobile when its driver suddenly reduced speed to avoid striking cows crossing the highway. Occupants of the passenger automobile were seriously injured and the higher court held the Capitol Transport Company liable, saying that the collision resulted from negligence of the truck driver.

YOU CAN'T enlarge the scope of your certificate or permit. In *Black v. Interstate Commerce Commission*, 167 Fed. Rep. (2d) 825, it was shown that a company held a certificate of public convenience and necessity to transport "machinery and machinery parts". The higher court ordered the company to not transport automobile parts and accessories. The court said: "We are clearly of opinion that the phrase 'machinery and machinery parts,' did not embrace the transportation of automobile parts."

PACKAGING

Things You Can Do

YOU CAN register and use a trademark which is not confusing to the public. For illustration, in *Standard*

Laboratories, Inc. v. Proctor, 167 Fed. (2d) 1022, it was shown that a company has for a long time used the trade-mark "Stran" for a shampoo preparation. Another manufacturer filed an application in the United States Patent Office for a trade-mark "Stim" on preparations for falling hair, dandruff and itching scalp. The Court of Customs and Patent Appeals held that the words "Stran" and "Stim" had very little in common and that because of the differences in the goods and the difference in the words their concurrent use would not result in confusing the public or deceiving purchasers. Hence this court held that both manufacturers can register and use their trade-marks.

YOU CAN refuse to pay wages specified by the Federal Fair Labor Standards Act wages to a timekeeper who keeps time on employees, only a few of whom are engaged in interstate commerce. In *Maitrejean v. Metcalfe*, 165 Fed. (2d) 571, a timekeeper sued his employer for overtime compensation under the Fair Labor Standards Act. The testimony showed that only a few men for which he kept time were doing work relating to interstate commerce. The higher court refused to hold the employer liable for payment of any overtime.

YOU CAN furnish gasoline, oil, etc. for one's automobile without being liable for injuries sustained by the employee while driving the car. In *Underwriters v. Terrell*, 126 S. W. (2d) 752, it was shown that an employee was driving to the place of work in his own automobile under an arrangement whereby the employer furnished gasoline free. The higher court held that the employee was not entitled to receive compensation for an injury received while driving his own automobile to his work.

Things You Can't Do

YOU CAN'T avoid paying compensation to an employee injured while riding in an automobile which you pay the employee to operate on a mileage basis. In *Texas Assn. v. Inge*, 208 S. W. (2d) 867, Texas, the testimony showed facts, as follows: An employer told an employee that he would be paid a travel remittance of seven cents per mile if he used his own automobile to go to special jobs. Under this arrangement, an employee named Inge used his own automobile to transport himself to and from certain jobs. He received no wages for the time consumed in traveling to and from the work. One day, after completing his regular hours of work, Inge started

to drive to his home in his own automobile. He collided with a truck and suffered injuries from which he died at the scene of the accident. Inge's dependents sued the employer for compensation. The latter contended that he was not liable for payment of compensation because Inge was not killed while attending to his regular duties as a "roughneck." Nevertheless the higher court decided that the employer must pay compensation to Inge's dependents.

YOU CAN'T avoid liability for injurious acts done by employees acting within the scope of their employment. In *Clarke v. Americus*, 47 S. E. (2d) 909, Ga., it was shown that after a customer left a place of business the manager rushed to the front door, whistled to him and during an argument struck the customer in the mouth causing severe injuries. The lower court refused to hold the employer liable, stating that the manager was not acting within the scope of the employment when he assaulted the customer, because the latter had left the place of business before he was assaulted. However, the higher court reversed the verdict, and said: "Although he (customer) had completed the mission Teaford (manager) resumed the business in a different aspect when he invited young Clarke (customer) back."

YOU CAN'T invalidate a state's minimum wage law. In *Strain v. Southern*, 74 N. E. (2d) 69, Ohio, a state law was passed which provides that the Department of Industrial Relations shall fix minimum wages paid female employees. A company contested the validity of this law. The higher court upheld the validity of the law and ordered the company to pay back wages to under paid employees.

WAREHOUSING

Things You Can Do

YOU CAN operate a warehouse erected on an illegal permit, if you prove that city authorities inspected the building while it was being constructed. In *Rosenthal v. City of Dallas*, 211 S. W. (2d) 279, Texas, it was shown that by mistake a city issued a permit for the construction of a cold storage plant on a site where an ice factory had formerly been operated. Operation of cold storage warehouses and plants is prohibited in this area by a city ordinance. The testimony showed that the city authorities from time to time inspected the buildings as they were being erected. The higher court refused to hold the permit invalid.

YOU CAN avoid liability for loss of or damage to stored goods caused by an employee if the customer fails to prove that the employee acted within the scope of his employment, or for your benefit. In *Hitt v. East Texas, Inc.*, 203 S. W. (2d) 963, Texas, the testimony showed that an employee confessed that he had wilfully set fire to his employer's building. The higher court refused to hold the employer liable, saying: "Certainly the fire was not for the benefit of appellee (employer) . . . Therefore, Hackney's (employee's) acts can in no sense be attributed to or binding upon appellee (employer)."

Things You Can't Do

YOU CAN'T avoid liability for conversion of stored goods which your employee delivered to a stranger without the customer's consent. In *Motor v. Union*, 207 S. W. (2d) 836, Mo., it was shown that by mistake an employee delivered stored goods to a stranger. The higher court held the owner of the goods entitled to recover the value of the goods, and said: "It is the uniform rule that a delivery of bailed property by the bailee (warehouseman) to one not the true owner and not authorized by the bailor to receive it is, of itself, a conversion and a breach of the contract of bailment for which the law imposes an absolute liability upon the bailee for loss or damage."

YOU CAN'T win a suit for destruction or loss of stored goods unless you prove finally that the loss was not caused by your negligence. In *Hanlon v. J. E. Miller Transfer & Storage Co.*, 79 N. E. (2d) 220, Ohio, one Hanlon sued the J. E. Miller Transfer and Storage Company to recover the value of his household furniture destroyed by fire while stored in the warehouse. The higher court held the warehouse company liable because it failed to prove that the fire did not result from negligence of its employees.

YOU CAN'T refuse to pay compensation to an employee injured while attending to his regular work, and the court may decide from circumstantial evidence that the injury arose within the scope of his employment. In *Dunaway v. Penney*, 209 S. W. (2d) 567, Mo., it was shown that an employee was employed in a warehouse. His duties included sweeping up, cleaning, dusting, and opening and closing windows when necessary. One day he fell out of a window and was killed. His wife sued for compensation claiming but not proving by witnesses that he had climbed to the top of some boxes to close a window and fell onto the warehouse driveway. The higher court awarded compensation to his wife, saying that since the employee's duty was to open and close windows in the warehouse, and he was last seen just before he fell, this evidence proved that his death was the result of injuries "arising out of and in course of employment."

Truckers Must Justify Rate Pleas

E. H. Lamkin, president of the Household Goods Carriers' Bureau, warned members of the organization that the moving service branch of trucking is now expected to prove that any pleas for alterations in prevailing rate schedules are justifiable and reasonable.

He further disclosed that the Bureau will shortly issue a new mileage guide; this will replace another issued some years ago. This guide is used by almost all household goods carriers as well as many common and contract freight haulers and passenger carriers for the control of rates published on a mileage basis.

MARKETING

Things You Can Do

YOU CAN without liability duplicate a copyright if the owner fails to prove that you copied it. In *MacDonald v. Du Maurier*, 75 Fed. Supp. 653, 655, the Federal Court held that there can be no infringement of a copyright, although the works are similar, unless the testimony showed that the one who was sued for infringement actually read and copied the copyrighted work.

YOU CAN be sued in the state you do business for violation of the Clayton Act, irrespective of the state of your incorporation. For example, in *Interstate Circuit, Inc. v. Tivoli Realty Co.*, 75 Fed. Supp. 93, it was shown that the principal place of business of litigants was in Texas. The higher court held that the mere fact that Delaware was the state of incorporation of one of the litigants, in a suit under the Clayton Act, did not preclude having the suit decided by a court in Texas.

YOU CAN be compelled to pay taxes on gross income of goods you sell at cost. In *Walgreen Co. v. Tax Division*, 75 N. E. (2d) (784), Ind., the testimony showed that employees of a company are privileged to secure from the company certain goods and merchandise at wholesale cost. The state authorities sued to collect taxes on these purchases made by employees in view of a state law which taxes the gross incomes of corporations. The counsel for the company argued that these transactions with employees who receive goods at cost do not constitute sales within the meaning of the gross income tax law. Nevertheless the higher court held that the company must pay taxes on gross sales made to its employees, saying: "Appellant (Walgreen Company) voluntarily allowed the employees to take the merchandise at cost. Whether this is a profitable or unprofitable arrangement and privilege is no concern of the state."

YOU CAN'T avoid liability for contracts or guarantees made by an employee within the scope of his expressed or implied authority. For instance, in *Nugul Chemical Co. v. Southwestern Drug Corp.*, 210 S. W. (2d) 607, Texas, it was shown that a manufacturer was endeavoring to introduce its new and unadvertised soap and employed one Byrd as its agent to do advertising by distributing free samples to the general public, and sell its merchandise to wholesalers. The agent called on the southwestern Drug Corporation and offered to sell a quantity of soap. The drug company had never dealt with the manufacturer and knew nothing of the soap. The drug company placed a large order for soap and the agent gave the buyer a typewritten sheet which stated that if at any time the purchaser shall elect to discontinue the sale of this merchandise the manufacturer would reimburse purchaser the full purchase price of the merchandise in his possession. The manufacturer's agent signed this sheet. The soap was shipped to the purchaser who paid the full invoice price. Later the purchaser decided to return the soap to the manufacturer but the latter refused to refund the money on the con-

(Continued on Page 112)

People in Distribution

For our readers' convenience, items referring to one person only are arranged alphabetically according to the individuals' names. Company news or changes affecting more than one individual are arranged alphabetically by company names. Association items are similarly arranged.

W. F. Armstrong, a vice president of General Motors, formerly in charge of the corporation's manufacturing and real estate staffs since 1944, has been appointed new general manager of the Chevrolet Motor Division.

Fernand P. Courtois has been appointed general agent for Cleveland by the French Line. He has been associated with the Line since 1918 serving in passenger and freight departments.

Richard H. Dick has been appointed marine engine sales representative for the Great Lakes and Eastern Canadian areas by the Packard Motor Car Co. Since last March, Mr. Dick has handled Packard marine engine sales in the Gulf Coast region.

G. A. Gilbertson, former assistant sales manager of the Industrial Power Div. of The International Harvester Co., has resigned his post and will join the Frank G. Hough Co. of Libertyville, Ill. as vice president.

G. M. Howard has been appointed sales manager of the Food Processing Equipment Division of Detrex Corp., Detroit.

Edwin J. Heimer, former president Berret-Cravens Co., Chicago, has joined Clapp and Poliak, Inc., exposition consultants, as vice president in charge of its newly opened San Francisco office.

Henry J. Howlett has been named president of Containers Laboratories, Inc., packaging and packing engineering consultants.

H. N. Kirchdorfer has been named Eastern Division Sales Manager of the Parts Division, Reynolds Metals Co., New York.

Nelson S. Knaggs has been named divisional vice-president in charge of sales of Hilton-Davis Chemical Co. Division, Sterling Drug, Inc., located in Cincinnati, Ohio.

William V. McTaggart, formerly manager of express and mail, Colonial Airlines, has been promoted to the position of director of cargo sales.

William D. Moss has been appointed traffic manager of Eaton Mfg. Co., Cleveland. Mr. Moss will advise on transportation of goods for all the Eaton divisions.

Fred Nason, president of Beverly Hills Transfer & Storage Co., has been named to the board of trustees of West Coast University, Los Angeles.

Eloise D. Preli has been appointed mid-western cargo representative for K. L. M.

Royal Dutch Airlines and will be stationed at the Chicago office.

A. W. Rice has been appointed company auditor for Mack Trucks, Inc. He joined the organization in 1921 and has been auditor for all 67 direct factory branches since 1936.

Richard Rieger, veteran service manager for automotive and engine manufacturers, has joined the Chicago office of The Yale & Towne Manufacturing Co., Philadelphia Div. as branch service manager.

Jerome M. Rosenthal of New York City, has been appointed Director of Industrial Relations for National Airlines.

Richard W. Shanklin has been named New England regional manager of The White Motor Co. His rich background of automotive experience is placed at the disposal of truck operators in New England.

Joseph L. Sheppard, assistant vice president, Illinois Central Railroad, Chicago, has been appointed to serve as the representative of railroads on an advisory council to the U. S. Senate Committee which will study Federal Trade Commission rules and policies.

John H. Stoddart has been appointed manager of the Travel and Agency Service Dept. for National Airlines, in Miami.

James C. Tweedell has joined the New York headquarters staff of the International Division of Carrier Corp. Mr. Tweedell is a director and former president of the Export Managers Club of New York.

Arthur B. Van Buskirk has been elected as a member of the Board of Directors of Koppers Co., Inc. Mr. Van Buskirk was formerly Deputy Administrator of the Lend-Lease Administration.

J. C. Weithaus has been elected vice president in charge of domestic sales, Calgon, Inc., Pittsburgh.

Sidney J. Williams, long identified with the field of industrial safety, has been elected the new chairman of the Highway Traffic Standards Committee of the American Standards Assn. He has been with the National Safety Council since 1918, assuming the title of Assistant to the President in 1945.

Baker-Rauland Co., Industrial Truck Div., has appointed **W. B. Landers** as district sales representative in southeast Texas, and **Fred R. Ramsen** as district sales representative in southern Illinois and Missouri.

Bemis Bro. Bag Co. has announced the promotion of **Robert J. McDonald** as manager of the Salt Lake City Sales Office, succeeding **L. P. Littell** who has relinquished his direct selling responsibility, but will remain in company service in an advisory capacity. **Erik A. Johnson** has been appointed general traffic manager at Chicago. For the past two years he has been a director and chairman of the traffic committee of the Merchants and Manufacturers Assn. of Bush Terminal, Brooklyn.

Blatz Brewing Co. Sales Dept. have promoted three key men. **Hollis D. Kerr**, veteran member of the Blatz sales staff, has been appointed assistant to the director of sales; **K. M. Olsen** has been promoted to Southwestern Division manager, and **Eric B. Edstrand** has become manager of the new Atlantic Division.

Chrysler Division, Chrysler Corp., announced the appointment of **Joseph A. O'Mally** as general sales manager of the division. **Roy H. Appleman** has been promoted to assistant general sales manager.

Cumberland Warehouse Corp., in Bridgeton, N. J., has appointed **Harold C. Emerson**, chairman of the North Atlantic Chapter of the National Assn. of Refrigerated Warehouses, Inc., as vice president and general manager.

Four Wheel Drive Auto Co., Clintonville, Wis., has unanimously reelected three members of the company's board of directors. Those named were **Robert A. Olen**, general manager; **A. A. Washburn**, one of the original investors of the company; and **Samuel N. Pickard**, president of the National Manufacturers' Bank of Neenah. They will serve for terms of three years. Officers were also reelected: **Walter A. Olen**, president; **Joseph D. Cotton**, vice president; **David J. Rohrer**, vice president; **Donald S. DeWitt**, vice president; **R. H. Schmidt**, vice president in charge of sales; **Robert A. Olen**, general manager; **S. H. Sanford**, secretary; and **James A. Driessen**, treasurer.

Electric Auto-Lite Co. of Toledo, Wire Div., with headquarters in Port Huron, Mich., has named **H. R. Butts** as general sales manager, succeeding **Verne F. Dobbins** (retired). **Max H. Smith**, national sales supervisor in Toledo, was named to succeed Mr. Butts as Southern Div. manager in Dallas. **Fred Vanzo**, Central Div. district supervisor, was brought from Chicago to replace Mr. Smith. (Kline).

General Motors, Buick Division, has announced several new appointments, with the promotion of **Harlow H. Curtice**, past general manager of Buick, to the post of executive vice-president of G. M. They are: **Ivan L. Wiles**, general manager; **Otis L. Waller**, general sales manager; and **A. H. Belfie** and **J. B. Nash**, assistant general sales managers.

The **Hyster Company**, Portland, Oregon, manufacturers of industrial trucks and tractor equipment has announced several new appointments: **William Morrow**, formerly purchasing agent for the Danville Plant, will now serve as chief accountant for the Portland office. **R. E. Stiegele**, former district representative, has been transferred to the general sales department in Portland. He will be replaced by **W. R. Hunt**, **Paul Brainard**, former assistant supervisor of Hoist Design, has been named head of the newly created engineering standards department.

The Merchants' Warehouse Co., Philadelphia, has elected the following officers: **Malcolm A. Buckey**, vice-president; **Lloyd E. Long**, treasurer; and **E. J. Smith**, assistant treasurer.

Mercury Manufacturing Co., Chicago, has named **O. T. Henkle, Jr.**, sales manager of the company. **P. K. McCullough** has been appointed assistant sales manager.

Railway Express Agency has made the following changes in personnel: **Clifford R. Graham**, heretofore vice-president, Eastern Departments, has relinquished that post to engage in special work pending retirement; **Alfred L. Hammell** has been appointed to the new post of executive vice president, New York; **William J. MacGreevy** has been appointed vice president, Southern departments, Atlanta; **John R. Marra** has been made vice-president, Western departments; **Walter Reese** is now vice-president, Eastern departments, succeeding **C. R. Graham**.

Santa Fe Railway announces the retirement of **Guy L. Goin**, freight traffic manager for the railway for more than 41 years. He is succeeded by **Robert S. Hirsch**, formerly Eastern freight traffic manager at New York.

The American Management Assn. has elected **James O. Rice** as secretary. Mr. Rice will be in charge of administration of the conference, research, publication and membership service programs for the various divisions of the association.

American Trade Assn. Executives has elected **Walter R. Guild** as vice-president. The Guild Associates, of which he is the head, manages the Massachusetts Warehousemen's Assn. and other groups. (Wellington).

The Army Transportation Association has elected **Harry F. Chaddick**, Chicago, as its new president. He succeeds **M. F. Redfern** of the Air Transport Association. Mr. Chaddick is president of the American Transportation Co. and Standard Freight Lines.

The Army Transportation Assn., Washington Chapter, has elected **E. F. MacMillan** first vice-president. Mr. MacMillan is chief of the Government Traffic Section of the A.T.A.

Foreign Freight Assn., recently organized in Chicago by representatives from 20 of the nation's chief railroads, has elected **Harold B. Bovee**, foreign agent for the Pennsylvania railroad, as president. **T. L. Vogel** of the Union Pacific was named vice president; **E. F. Howell** of the Grand Trunk-Canadian National was elected secretary and **George J. Stinmiller** of the Santa Fe becomes treasurer.

The Industrial Packaging Engineers Assn., Chicago, Ill., has awarded an honorary life-time membership to **R. L. Beach**, who recently retired from the General Electric Co. after 41 years service.

The Missouri Warehousemen's Assn., Inc., announces the following changes: **E. L. Winterman**, of the Tyler Warehouse & Cold

Storage Co., was elected general president; **Mrs. E. M. Busey**, of Radial Warehouse Co., was given the position of general secretary-treasurer; **R. Frank Wallace** of Crooks Terminal Warehouse Co., was named president of the Merchandise Division; and **H. A. Prosser**, of Prosser's Moving and Storage Co., was elected president of the Household Goods Division.

Material Handling Institute Inc. has elected **Robert J. Himmelright** to membership. Mr. Himmelright is president of Monarch Rubber Co., Hartville, Ohio.

Joseph Anthone has purchased the three-story building at 241-45 East Genesee St., Buffalo, for use as a warehouse. (Toles).

The Bayway Terminal Corp. was recently awarded a \$20,000-a-year warehouse leasing agency at Port Newark by the Port of New York Authority. It will be the authority's agent for the storage and handling of general merchandise and lumber in the area south of the inshore ship channel. (Vitkauskas).

Brown Industries, Inc., of Spokane, Washington, has announced plans for establishing an aluminum trailer assembly plant. The new plant will have a floor space of 70,000 sq. ft. and will serve Brown trailer distributing outlets in the central, eastern and southern states.

Crosley Motors has let out contracts for a new building which will add 21,120 sq. ft. to the assembly capacity of its Marion, Indiana, plant, according to **Powel Crosley, Jr.**, president. The new structure will represent the twelfth expansion of the assembly plant since 1945.

Economy Engineering Co., manufacturers of portable elevators and other materials handling equipment, announce the moving of their entire manufacturing facilities to a new plant at 4511 West Lake Street, Chicago.

The **R. L. Harrison Co.** of Albuquerque, New Mexico, distributors of Caterpillar Tractors, road building equipment and parts, will move into their new building in December.

The National Retail Dry Goods Assn., through its Board of Directors, named **J. Gordon Dakins**, General Manager and Assistant Treasurer. Mr. Dakins was formerly Assistant to the President of the N.R.D.G.A.

National Highway Users Conference has named **Russell D. Lund**, Chicago industrial editor, as regional representative for the states of Illinois, Indiana, Ohio, Michigan, and Wisconsin. Lund succeeds **Harold Gray** of Chicago whose promotion to the Washington N.H.U.C. staff has also been announced.

DISTRIBUTION BRIEFS

Jack & Heintz Precision Industries, Inc., Cleveland, has opened a new branch office in Hollywood, Calif. **P. R. Baus** has been appointed manager.

Lee & Cady, wholesale grocers, have awarded contracts for a new \$1,000,000 warehouse in Toledo. This plant will house the company's headquarters for Ohio operations.

Pettibone Mulliken Corp., Chicago, has purchased the Universal Engineering Corp. of Cedar Rapids, Iowa. The financial, production, and sales facilities of Pettibone Mulliken Corp., Universal Engineering Corp., Beardsley and Piper Co., and the George Haiss Mfg. Co., are now merged.

Railway Express Agency has proposed a single scale of rates for the entire country. It estimated this would increase its revenues by about \$15,000,000 a year based on the 1947 volume of express. The agency requested the Interstate Commerce Commission for permission to make the Western scale, which is slightly higher, apply for the rest of the country. (Vitkauskas).

The Texas Transport and Terminal Co., Inc., steamship agents will open a Chicago office. **G. E. Wieckhoff**, formerly traffic manager in the company's New Orleans office, will be in charge.

Trans-Global Shipping Corp., foreign freight forwarders and air cargo representatives, announce the opening of new offices at 180 Broadway. (Vitkauskas).

The Western Assn. of Railway Executives have consolidated with the Assn. of Western Railways under the name of the latter. **Daniel P. Loomis** has been named chairman of the consolidated organization. He was executive director of the Assn. of Western Railways since 1942.

COMING EVENTS

Jan. 1-14, 1949—Annual Engineering Display, Society of Automotive Engineers, Book-Cadillac Hotel, Detroit, Mich.

Jan. 23-28—Annual Convention, National Furniture Warehousemen's Assn., Palm Beach Biltmore Hotel, Palm Beach, Fla.

Feb. 6-7, 1949—15th Annual Meeting of Associated Warehouses, Inc. to be held in San Francisco at the Hotel Mark Hopkins.

Feb. 7-10—58th Annual Convention, American Warehousemen's Assn., Fairmont Hotel, San Francisco.

(Joint meeting of both divisions: National Assn. of Refrigerated Warehouses and AWA Merchandise Div.)

March 1-6—National Frozen Food Exposition, 71st Infantry Armory, 34th and Park Ave., New York City.

May 10-13—American Management Assn.'s 18th Annual National Packaging Exposition, Public Auditorium, Atlantic City, N. J.

Obituary

Clarence A. Ullman, president, Federal Warehouse Co., Peoria, Ill., an associate of the American Chain of Warehouses, Inc., on Oct. 2.

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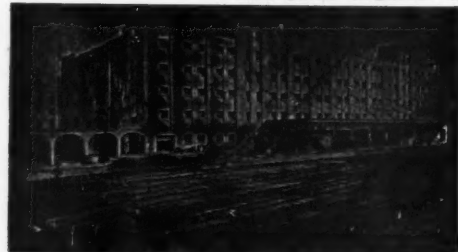
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5

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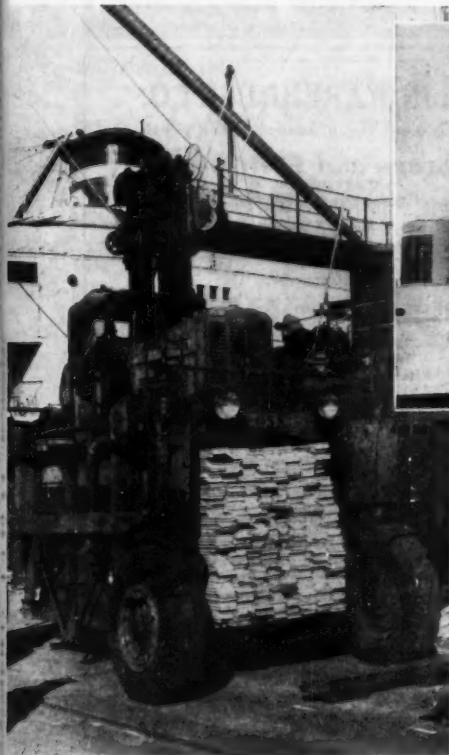


Air view of Lumber Terminal location; 60 million board feet capacity

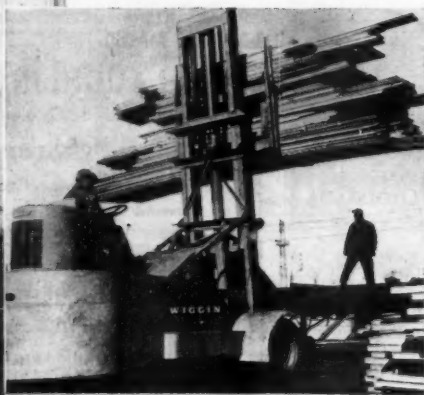
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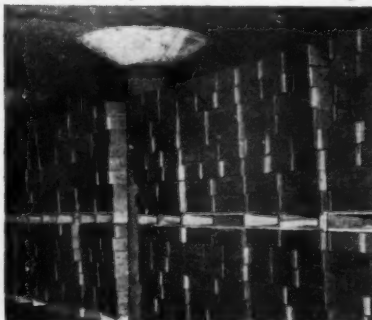
Type of space maintained and available for rental.



Heavy capacity fork trucks speed loading and stacking at Lumber Terminal

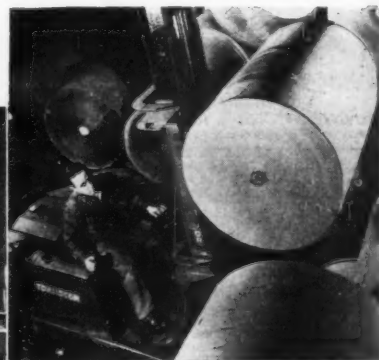
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Twenty fork trucks insure economical, prompt and safe handling.

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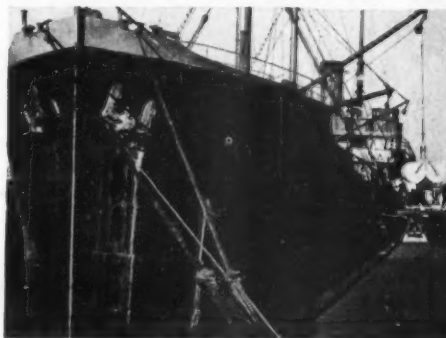
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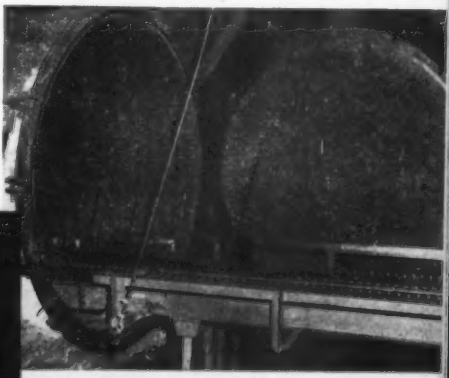


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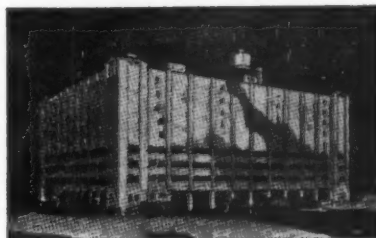
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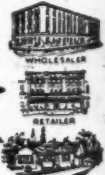
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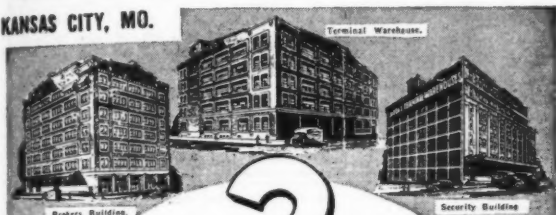
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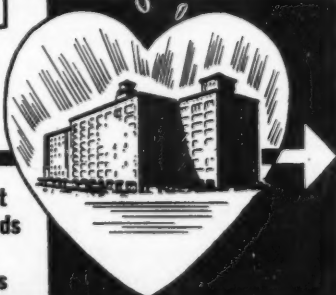
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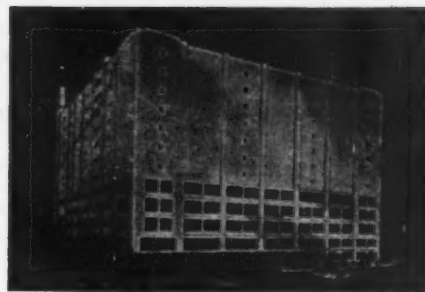
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
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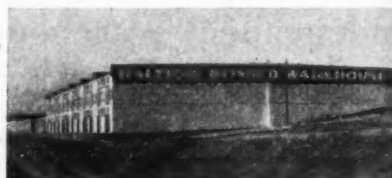
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GENERAL WAREHOUSING AND DISTRIBUTION

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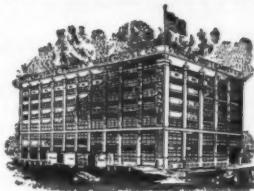


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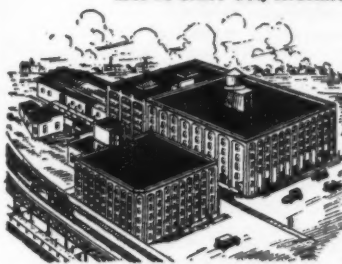
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DISTRIBUTION AGE for January will preview 1949

trends in all phases of distribution.

GETTING DOWN TO CASES

(Continued from Page 79)

tention that its agent was not authorized to sign and deliver to the buyer the guarantee to take back the merchandise and refund the money paid. Nevertheless, the higher court ordered the manufacturer to take back the soap and refund to the buyer all money paid on the account, plus the transportation charges. This court said that the manufacturer was liable on the money back guarantee signed by the agent because: (1) The manufacturer by his actions gave the agent the apparent authority to sign the contract in question; (2) after the manufacturer learned that the agent had signed the contract he failed to notify the buyer within a reasonable time thereafter that the agent did not have authority to sign such contract; and (3) the manufacturer ratified the contract made by the agent by failing to notify the buyer that the agent was without authority to make the agreement.

You CAN'T avoid damage liability if you breach a sale contract. In *Light Co., Inc. v. Foster*, 33 So. (2d) 540, La., it was shown that a seller signed a

contract to deliver certain equipment to the purchaser. The seller failed to deliver the merchandise. In subsequent suit the higher court held the seller liable for \$2,974 damages because the purchaser proved that he could have sold the merchandise and earned a profit of \$2,974.

You CAN'T falsely advertise curative qualities of a drug, without subjecting the drug to confiscation. In *Re Lab, Inc. v. United States*, 167 Fed. (2d) 410, it was shown that a company has engaged in the manufacture, sale, and distribution of proprietary drug products. The company's direct sales program involves extensive use of advertisements in daily and weekly newspapers and similar publications. The government agents seized 600 cases of the drug, and proved that there appeared in newspapers false advertisements of its curative qualities. The higher court approved confiscation of the drug, although the false statements were not part of the labeling.

You CAN have a monopoly in a singles business without violating anti-trust

laws. In *United States v. Griffith*, 68 S. Ct. 941, the Supreme Court of the United States held that anyone who owns and operates one single business may have the exclusive right to distribute, exhibit or sell merchandise and thus has a monopoly in the popular sense, but he does not violate the Sherman Act unless he has sought to expand his monopoly.

You CAN start a new business and hire the purchaser's employees, if you did not agree in writing not to do so. In *Davis v. Dees*, 29 Co. (2d) 774, La., one Dees sold his business to a man named Davis. Soon afterward Dees started a competitive business. Davis asked the court to prevent Dees from operating the new business. Davis proved that Dees had verbally agreed not to engage in a competitive business. Although the testimony showed that Dees had hired several employees of Davis, the higher court refused to hold Dees liable, saying: "No agreement or understanding of that nature is contained in the executed written instrument . . ."



You CAN collect on an insurance policy if you convince the jury that you did not violate the terms of the insurance contract.

and Firms are Arranged Alphabetically

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- Milk Distributors
- Railroads
- Chemical Manufacturers
- Wholesale Grocers
- Florists
- Paper Mills
- Poultry Suppliers
- Farm Produce Haulers
- Printers
- Express Companies
- Ice Distributors
- U. S. Mail
- Feed Distributors
- Hardware Dealers etc., etc., etc.

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